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Correction.—In the October JOURNAL you did not get our report quite right. The 2,000 lbs. of mixed honey was what we hoped to get; but we did not get any mixed or dark, for buckwheat failed us entirely. We did get 10,000 lbs. of extra fine comb. BENEDICT & NEWMAN.

Perry Center, N. Y., Oct. 13, 1880.

Editor's Table.

■ Mr. A. I. Root's *Gleanings* sports a newly engraved cover. It is very delicate and artistic.

■ Mr. R. Bacon, Verona, N. Y., says: "My bees have gathered as much or more honey from celendine weed, as during all the season before."

■ We have received the paper separators described by Mr. J. E. Moore on page 506, and will give them a fair trial next year. The section, filled with excellent comb honey, is evenly built, and makes a very attractive appearance.

■ In an essay before the National Convention, as reported on pages 529-30 of this JOURNAL, Mr. Locke recommends the adoption of a standard frame. It is very desirable that there should be uniformity in this, but we fear it will never be accomplished by any convention, but by the "survival of the fittest."

■ On our way to Cincinnati to attend the National Convention we went to Louisville, and there met quite a number of Kentuckians who formed a State Association, whose officers are to play a prominent part in the apicultural development of that State for which it is so eminently qualified by nature, as may be seen by the excellent article on the honey producing plants, trees and shrubs of Kentucky, read by Dr. N. P. Allen before the National Convention.



The National Convention.

As expected, the National Convention at Cincinnati was a grand success. There was a good attendance, and the sessions were all interesting and instructive. In order to give the many who were not present a chance to read the full report of the proceedings as soon as possible, we issue this number of the *BEE JOURNAL* about a week earlier than usual, and give up to it nearly all the space, deeming it the *freshest news* that can be given at this time. We feel sure that the report will be read with much interest.

To Mr. Muth all were indebted for his energy and ability in completing the arrangements so satisfactorily. The Convention having adjourned on Thursday evening, many bee-keepers assembled at Mr. Muth's on Friday morning, and after examining his Cyprian and Italian bees, located on the roof of his store, Mr. Muth obtained carriages and took the whole party to Mt. Healthy, the residence of Mr. J. S. Hill, where they met with a hearty welcome and sat down to a good dinner, after which they examined Mr. Hill's apiary, consisting of over a hundred colonies of pure Italian bees, in Langstroth hives, which over the ordinary wooden covers have sheet iron, the front of which is made into a gutter to carry off the water; between the wood and sheet iron is a sheet of building paper, as a protection against the weather.

Three ladies accompanied the party—Mrs. L. Harrison, of Peoria, Ill., conductor of the Aparian Department in the *Prairie Farmer* of this city; Miss Benton, sister to Mr. Frank Benton who is now in Cyprus, and Mrs. Robins, of Indianapolis, Ind.

The President and Secretary of the Society being present, the names of the party were taken; it consisted of 22 persons, 7 States and Canada being represented. After a vote of thanks to Mr. Hill, for his hospitality, the party returned to Cincinnati, having spent an exceedingly pleasant day.

The *Farmers' Home Journal*, Louisville, speaking of our new but worthy President, says :

The North American Bee-Keepers' Society elected Dr. N. P. Allen, of Warren county, Ky., President for the ensuing year. Dr. Allen is a man of real worth, and this compliment is most worthily bestowed. He is well posted in the art of bee-keeping, and delights in practicing it. He keeps 40 to 50 colonies of bees, and they are always in good condition. The Doctor is a modest man, and never seeks an office nor shirks a duty.

Mr. William Williamson, of Lexington, was made Vice President of the Society for Kentucky—an honor, also, to which the interest he takes in the subject entitles him.

The Cincinnati *Gazette* gave the following pen-pictures of six persons who were in attendance at the Convention :

The President of the Society, Mr. Thomas G. Newman, of Chicago, is a man of middle stature, the very picture of health and good nature, of florid complexion, and though his slightly salted hair betoken a man of medium age, the strong, bushy mustache and goatee indicate a man possessing all the vigor of prime manhood. He has slightly the air of a Chicagoan, but is dignified in his manner, portly in appearance, and as sweet-mannered as the bees producing honey. Mr. Newman has been President of the Society for two terms, and for the past seven years has been the editor of the *AMERICAN BEE JOURNAL*, connected with which is an apiary, situated at the corner of Madison street and Western avenue, where about 100 colonies of bees are in operation for special experiment and constant observation, so that the latest discoveries and developments in the science of bee-culture may be published in the *JOURNAL*.

Mr. C. C. Coffinberry, one of the delegates and Secretary of the Northwestern Bee-Keepers' Association, has charge of the *BEE JOURNAL* apiary in Chicago, and exhibited a dozen small bottles, in which several different species of Italian worker bees are preserved in alcohol, showing how, by constant cultivation and experiment, the bees may be improved, and made more beautiful in appearance. Mr. Coffinberry is a man rather past the medium age, and has a peculiarly bright eye. His occupation for several years has been the study of bees, and at present he is following his occupation for the sole purpose of benefiting the scientific world through the *BEE JOURNAL*.

Dr. N. P. Allen, of Smith's Grove, Ky., the newly-elected President of the Society, looks like a man of serious study and deep reflection, and his tall figure and well-marked features denote every inch the well-bred Kentucky gentleman.

Mr. D. A. Jones is a man of small stature, stout, of ruddy complexion, and looks as much an Englishman as though he came fresh from Liverpool. He had with him a number of queens preserved in alcohol. He emphasizes his words, and seems well versed on every subject pertaining to bees.

Mr. L. Johnson, of Kentucky, has the characteristic large mouth of the orator, is rather above the medium size, wears a full red beard and side whiskers, and his language is eloquent. He looks the typical man from Kentucky, and enters into every discussion with real Southern ardor.

Mr. T. F. Bingham is a man of classic features, and is considered quite an authority on bee-eulture.

The newly elected officers, as well as the place of meeting are all well chosen, and we confidently predict a pleasant and profitable meeting next fall. Two years ago we had about \$5 in the treasury; now we have nearly \$100, after paying all expenses. In 1876 the Society was expected to die at Philadelphia, but now it is a power felt not only in every State of the Union, but also in Canada and Europe, and its prospects are as bright as the science of bee-keeping is captivating. We hope all its officers will labor not only to sustain its present reputation, but to increase its usefulness and extend its influence.

Croffut has written a poem entitled, "Charlie, the Bees are Swarming." It is set to music, which is said to be very natural. A reviewer gives the following description, illustrating the methods of the untutored past :

" You can barely hear the distant hum of the bees, increasing louder and louder. It begins on the little violin; the bass viol strikes in when the bees get fairly at it; then several falsetto notes show where the hired man got stung; now come a dozen discordant sounds representing the drumming on old tin pans to make the bees alight; then softer notes as the hive is brought out and placed under the tree, followed by sudden shrieks from the penny whistle to the big French horn, as the baby, the hired girl, the dog, the farmer's wife and the farmer start for the camphor bottle and the woodshed."

The "American Newspaper Directory" for 1880, published by Geo. P. Rowell & Co., of New York, is a complete and very useful work, invaluable alike to the general advertiser and the newspaper publisher. We acknowledge with thanks, a copy of this excellent book, from the publishers.

Beggars' Ticks as Bee Forage.

The enclosed plant is of spontaneous growth near our apiary. It attains 4 to 6 feet in height, is quite branching, commences to blossom in August, and to-day, notwithstanding several heavy frosts, bees are working vigorously on it, and apparently with satisfying results. We do not know where the seed came from, but think it may prove a valuable late honey plant; will test it thoroughly next season. Please name it.

Chicago, Oct. 13, 1880. C.

[The specimen sent is *Verbesina Virginica* (crownbeard), and is closely related to coreopsis and beggars' ticks. It has been sent before as a bee plant.—W. J. BEAL.]

On the 24th of last month, we delivered a lecture at the court house in Omaha on "Bee-Keeping a Science." A fierce thunder-storm coming up on that evening, made the audience small. But one lady dared to venture out, and that was "mine host," Mrs. Van Dorn. We had a pleasant visit with many Nebraska apiarists, and examined the many very creditable exhibits on the fair grounds, including the aparian exhibit of Mr. Van Dorn, and the fruit of Mr. Hiram Craig, President of the Nebraska Bee-Keepers' Society.

We notice that the *Country Gentleman* gleaned several articles from the last BEE JOURNAL; of course, being an honorable and good journal, it gave due credit; but there are scores of agricultural papers that in nearly every issue copy articles and never think of giving credit. This illustrates the difference between honorable journalism and the fraudulent catch-penny kind.

The insects sent for identification by I. R. Good, of Napanee, Ind., are the stinging-bugs, *Phymata erosa*, and are fully described and illustrated in the 4th and 5th editions of my Manual of the Apiary. From the numerous complaints which come to me, I judge this to be one of the worst pests to the bees.

A. J. COOK.



Another New Departure.

Twenty years ago the BEE JOURNAL was born, making its first appearance on January 1st, 1861. Its visits have been made to its patrons monthly so far, but on its twentieth birth-day it is to assume a more important position, and will from that day forward visit its patrons Weekly. This will be hailed with joy by many of its friends, who have long desired its more frequent visits.

We have concluded to publish the BEE JOURNAL weekly during 1881, in order to promptly accommodate our rapidly increasing correspondence, the volume of which is already too large for immediate publication, without neglecting other important departments. It will consist of 8 quarto pages of 4 columns each—32 columns in all. This will contain about double the amount of matter given during 1880. It will be issued each Wednesday, at \$2.00 a year.

It will also be published on the *elastic plan*. Each number, complete in itself, will be fully indexed. Therefore, those who desire only to take a monthly, will be furnished the number published on the first Wednesday of each month, for 50 cents a year.

Those wishing it semi-monthly, can have the numbers published on the first and third Wednesdays of each month, for \$1.00 a year.

By this *elastic plan*, all may be accommodated who desire to invest 50 cents or more in a bee paper.

Any one who will get up a club of six will be entitled to an extra copy *free*, like the club sent.

Now that the JOURNAL is to be published weekly, we hope all its friends will exert themselves to make it a success. We have no doubt of the active co-operation of all our patrons.

We shall be exceedingly busy in December making the necessary arrangements for publishing the Weekly, and we shall esteem it a favor, if all who can will renew their subscriptions for next year at once, and thus save us much extra labor in taking out the names from

the mail list, having to reset them, etc. Promptness in this will save us much trouble and time, when the latter will be very valuable to us.

On page 520 a digest of Mr. Jones' speech on Cyprian Bees is given. Since that was printed we have received it in full, and will give it in our next issue.

We also have the essay of Rev. O. Clute, which was not received in time to read at the Convention; that will also appear in the December number.

On page 474 of last month's BEE JOURNAL, Mr. J. C. Peters described a weed and asked its name. Prof. W. J. Beal informs us that it is *Ambrosia trifida*.

The *Bee-Keepers' Guide*, edited by Mr. A. G. Hill, gives a brief report of the National Convention, but the *Guide* is in error as to the location of the next Convention. It says that it should have gone to the East. New York did not want it till 1882, at the time of the World's Fair in that city. Augusta, Ga., was proposed, but it was stated that it could not give the Society as good a turn-out as was desirable. Mr. Johnson, of Kentucky, said that a large majority of the bee-keepers were in the North, and hence, in order to disseminate knowledge among the Southern brethren, it was proper to have the next Convention in the South. All nominations were withdrawn in favor of Kentucky, and Lexington was selected as the next meeting-place of the Convention.

Those who subscribe now for 1881 will be furnished the remaining numbers of 1880 *free*. The sooner they subscribe, therefore, the more they will obtain for their money.

We will hold a District Bee-Keepers' Convention at Anderson, Ind., on the 5th and 6th of November, 1880, and we extend a cordial invitation to all bee-keepers to attend.

G. J. BROWN,
JAMES MOHAN,
A. J. DAVIS.

Anderson, Ind., Sept. 26, 1880.



Letter Drawer.

Honey for Winter.—The season has been unusually poor, my bees not averaging over 25 lbs. of comb honey. Each colony has about 30 lbs. to winter on; they are in 10-frame Langstroth hives, and are very strong; is that enough to winter on? There are very few bees in this county. What hive would you advise a beginner to use?

CHAS. M. GAYLORD.

Clyde, Kansas, Sept. 21, 1880.

[Unless the winter should be a very severe one, 30 lbs. of honey will answer. We think the Langstroth hive good as any.—ED.]

Italian Bees, etc.—This has not been a very good honey season in Western Pennsylvania; too cold and dry I think was the cause of the failure; the flowers yielded honey only a part of the time, and I noticed when they did it was during a few days of warm weather, when the bees gathered honey very fast. I have heard so much about the superiority of the Italian bee, that I will have to give my experience with them this season. I had 4 colonies of Italian bees in the spring, in good condition. From one of them I received about 22 lbs. of comb honey, from another about 5 lbs., and from the other two not one lb., while some of the black bees gave over 20 lbs. to the colony, and a colony of hybrids won the prize, by producing about 50 lbs. of surplus. My Italians appeared to be as strong as any I had. I was much disappointed, as I expected my Italians to do much the best. But I shall not condemn them yet, and will give them another trial. I cannot ignore the testimony of so many good men yet.

OSMAN McCARTY.

Zollarsville, Pa., Oct. 6, 1880.

Egg-Bound Queens, etc.—The JOURNAL regularly appears with its budget of reports of conventions and apiaries in every country in the world. These, I need not say, I read with interest. In Bruce we have any amount of white clover during the whole summer, also basswood and goldenrods in their season; so in this county bee pasturage is never a complete failure, although the last season was not so favorable as the previous one; yet the intelligent bee-keepers have had a good quantity of the very best honey, which they can easily dispose of at a good price. I was interested in the remarks made by some of your correspondents in the last number

of the JOURNAL regarding egg-bound queens. I have had the misfortune of meeting one this season, exactly the same as Mr. Jeffrey describes. She was a young queen and a great beauty—yellow as gold—and was laying eggs for 2 or 3 weeks before her abdomen became diseased. As I knew of no remedy, I removed her to a nucleus, where I think she died.

J. ANDERSON.

Tiverton, Canada, Oct. 9, 1880.

Mitchell's Hive.—I have been keeping bees for 20 years or more. I have 40 colonies; I had 20 natural swarms this season; a large one on the 1st inst., which I put in the Mitchell adjustable hive, giving them 5 frames of honey and young bees, and they are now doing well. Bees done well the early part of the season, gathering plenty of honey. I like Mitchell's hive on account of its cheapness.

H. WHITE.

Woodbury, Ky., Sept. 20, 1880.

Aster.—Please give name of enclosed plant; it grows about $2\frac{1}{2}$ feet high; blooms from Sept. 1st till quite late, and bees seem fond of it. What is its value for honey? Bees in this section have produced very little surplus, owing to dry weather in June, July and August; increase moderate.

J. C. GRIFFITH.

College Mound, Mo., Oct. 4, 1880.

[The plant is an aster, and is good for fall honey.—ED.]

Cheap Bee-House.—Our bees done very well about 10 days the past season, while linden was in bloom. Strong colonies stored 2 to 4 lbs. per day during that time, having empty comb to store it in. Since then they have stored no surplus. Buckwheat did not seem to furnish much honey, though there was considerable of it. I extracted 610 lbs. of linden honey, and sold it in 2-lb. jars at 30 cents per jar. I had 35 colonies in the spring, and now have 50. I use a cheap bee-house, both in winter and summer, made as follows: 6 feet high, 5 wide, and as long as desired; side it up with rough barn siding, leaving 8 inches space at the bottom for the bees to pass out of the hive; also leave 8 inches space at the top of the hive for a window. Put in two rows of hives, one on each side, leaving room to pass between them. When you wish to operate on one row, you have (if not too high) the other for a seat. On the approach of winter fill up the spaces between the rows, and all around the hives, with dry straw; also put 6 inches of straw on the top, leaving the entrances to the hives open, and the bees will come out well in the



spring. I formerly wintered in the cellar with success, but I like the house and straw better, for it gives shelter and shade in summer, and saves moving the bees two or three times a year. The BEE JOURNAL is a regular and welcome visitor.

A. S. EDSON.

Brooklyn, Mo., Oct. 12, 1880.

Why is it?—Mr. Wise of this place informs me that he has had 3 Italian queens recently destroyed by their own bees; one colony refused to accept another queen, and all refuse to rear any more queens—what ails them?

D. P. NORTON.

Council Grove, Kans., Sept. 27, 1880.

[Not knowing anything but bare facts given above, we can only conjecture the ailment: They may have wished to supersede their queens for cause, and had no facilities for rearing new ones, till the workers became too old for nurses; or they may have developed fertile workers; or the queens may have been unskillfully introduced; or there may have been other causes. Had a surface cage been used, and the queen imprisoned on a comb with larvae and sealed brood, and given the colony, no trouble would have occurred in introducing.—ED.]

Hybrids.—This is my first year at rearing queens, and some of them are as pure as I ever saw, but some are mixed. I was of the opinion that an Italian queen mated with a black drone, would produce uniform bees half-and-half; but I find some in such hives looking as pure as any, and some as black as any black bee. Now, I want to know, is that the true nature of them, or will the bees be uniform? I have 33 colonies, and no more honey than will be required to winter on.

H. M. WILLIAMS.

Bowden, Ga., Sept. 11, 1880.

[You were wrong; the bees will not be uniform, but will be all shades. So, also, will be the queen progeny.—ED.]

Alfalfa.—Please give name of enclosed; I obtained it in Ohio. The seeds grow in a small, spiral-shaped pod, and were brought from South America to Ohio. Is it a good honey plant?

O. O. POPPLETON.
Williamstown, Iowa, Oct. 12, 1880.

[The plant sent is lucerne or alfalfa (*medicago sativa*). It is a well-known bee plant.—W. J. BEAL.]

Moving Bees, etc.—Mr. O. B. Curtis' article on clubbing rates, I think, is a very important suggestion, and am glad that you will take a stand against it. If all publishers would adopt this plan it would be better for all good papers and journals. I have about 20 colonies to go into winter quarters with, and would like to move them about 25 yards from the place where they now are, which is in a garden very close to where I have plants, etc., and in certain seasons they are troublesome to the laborers when they are damp with perspiration, and when using a hoe they seem to think they are fighting them, and stinging is the result. They are now shaded with boards; will it be best to put them under a large tree, or where there are no trees? When is the best time to move them, now or in the spring? How do you think the Simpson honey plant, that Mr. Stewart, of Kentucky, speaks of, will do in this climate? Success to the BEE JOURNAL.

R. G. NICHOLSON.

Hainesville, Md., Oct., 1880.

[Bees can be moved at any season of the year with safety, if a slanting board or bush be placed over the entrance to cause the bees to re-mark their location. The Simpson honey plant will undoubtedly do for Maryland. A partial shade is better than too much.—ED.]

Albinos.—I received from D. A. Pike, July 9th, an albino queen, which proved to be very prolific, her bees showing the three rows of white hairs after the yellow band, making them beautiful to look at. I had a good opportunity to test her progeny, as I had in the same yard two good Italian queens, one light, and the other dark. The albinos gathered more honey, and were more easily handled, owing to their gentleness.

N. J. TEIGHOR.

Carlisle, Iowa, Sept. 24, 1880.

Southern Welcome.—I was very much pleased with the late National Convention at Cincinnati, and consider myself well paid for the time and money I spent in attending it. As Lexington is the place for the next meeting, I hope it will be largely attended; we shall be pleased to meet our Northern brethren on Southern soil again, and will give them a genuine, hearty, old Southern welcome. No place South could be more desirable than the one selected, and no people in the world are more hospitable than the genuine old Kentuckian, and especially in the region of Lexington.

J. M. DAVIS.

Spring Hill, Tenn., Oct. 15, 1880.



Correspondence.

For the American Bee Journal.

My Honey Report for 1880.

G. M. DOOLITTLE.

The season of 1880 opened a little earlier than usual, bees getting pollen quite freely as early as April 17, while on May 12th the willows furnished a little honey, sufficient to start brood-rearing nicely; so the bees were in a prosperous condition to take advantage of apple blossoms.

May 22d found our bees rushing out of their hives bright and early to get the nectar which was being secreted in the apple blossoms quite plentifully. The combs in our hives soon began to show the result by the lengthened appearance of the cells at the tops of the frames; lengthened with new white wax, which always does the eyes of an apiarist good to behold. After about 4 days a rain set in, terminating with cold, which put a stop to the operations of the bees till the blossoms had fallen off. Our bees, however, had collected on an average about 10 lbs. to the colony, so we were perfectly satisfied with the result, although we should have been more pleased if nothing had occurred to hinder their gathering honey till apple bloom had gone. When we had our bees prepared for the season's operations we found we had 70 colonies to begin the season with, all of which were in fine condition June 10th, to take advantage of a yield from clover, if such a yield could have existed. But alas, our open winter had made havoc with the clover, the most of which was found standing on their heads, with their roots turned toward the sky, upon the approach of spring. Still, along the road-side and in old pastures of long standing there was considerable left that had withstood the constant determination of Jack frost to heave them out of the ground, and upon this we placed our hopes of a living, at least, for our bees, and perhaps a small surplus. But we were destined to disappointment, for June 18th found us feeding our bees to keep them from starving. On June 22d the blossoms of the whitewood secreted enough honey so we ceased to feed, when some of our most enterprising Italians began to swarm.

Basswood opened 10 days earlier than usual, and 7 days sooner than we ever knew it before; so that July 1st found the bees going to the woods in countless numbers. Yet the yield at no time was

great. Our best colony for extracted honey gave us a yield of only 10 lbs. per day, against 22 lbs. per day in 1877. On July 13th came the close of basswood, after which our bees hardly obtained a living from the few scattering flowers, such as catnip, motherwort, etc., which blossomed in waste places and along the fences. Buckwheat opened Aug. 12th, and we hoped for a yield from that source, as we had not secured a pound of surplus from buckwheat since 1877, and surely it ought to yield honey one year in three at least. Disappointment was again our lot, for although there was 50 acres within the range of our bees' flight, still they obtained scarcely more than enough to supply the demands of the brood. Thus our season for honey closed with no surplus except from basswood. As a result, we again have to report a poor season, yet not a discouraging one by any means. We have taken, in comb honey, 3,532 lbs., and 812 lbs. of extracted, or 4,344 lbs. in all. This gives us an average of a little over 62 lbs. for each colony in the spring. Our bees have increased from 70 to 112 colonies, in fair condition for winter.

Last year we gave as our average for the past 7 years, 90 lbs. per colony, and were in hopes, by having a good season this year, we might bring it up to an even 100 lbs. for an 8 years average; but we have gone the wrong way, and so have to chronicle as an average yield per colony, for the past 8 years, 86 $\frac{3}{4}$ lbs., nine-tenths of which has been box honey.

Now, there are three requisites toward securing a large yield of honey in a good season; a fair yield in a medium to poor season, and a little in a very poor season. First and most important is the man or apiarist. The man that knows just when and how to do a thing so that everything is done just at the right time, and in the right place, and also knowing how to use, and having all the modern appliances for successful honey raising, will rarely have cause to complain of his poor success.

Second. A race of industrious bees, whose queens shall keep the combs in the brood chamber well occupied with brood, at all times, till the honey harvest closes for the season. To this end each one should breed only from queens that give the best results as producing honey-gatherers in their progeny.

Third. A hive that is adapted to the natural instincts of the bee, and also easy of operation for the bee-keeper. For box honey, the boxes should come close to the brood, so no space of heavy wood or sealed stores intervene between the surplus arrangement and the brood;



and for extracting, a hive containing at least 3,500 cubic inches of space, all in one apartment. The idea is this: If our bees and ourselves are always in readiness for a yield of honey, and there are but 4 or 5 days' yield in the whole season, we can secure something even then; but if not in readiness, the 4 or 5 days will pass and we shall get nothing.

Let it not be understood that any one thinks that bees can store honey when none is secreted in the flowers, let them blossom ever so profusely; but be it understood, that when there is a yield, if only of short duration, good results can be obtained by the diligent.

Borodino, N. Y., October, 1880.

For the American Bee Journal.

Paper Separators, Feeding Back, etc.

J. E. MOORE.

EDITOR JOURNAL: I suppose you have concluded, from my delay, that the bees have been "chewing their end" on the paper separators, mention of which I made to you some time ago. Well, when one has 150 colonies of bees to look after, besides 25 nuclei, and does all the work himself, there is not much spare time on his hands, if the bees have the care they should have. Besides, as you will see by samples, I have branched this out on comb foundation.

Well, I have thoroughly tested the separators, as made like the sample, and as the bees have not injured one of them, I pronounce it a success. I commenced experimenting with paper for separators in 1871, but have never been able to find anything that the bees would not cut out, until I coated the paper with shellac. The foundation is made on lighter board, prepared in the same way. I made a crude bath for dipping, and having to dip at the side of the can to avoid the lumps of wax, did not get the paper coated the same thickness on both sides. I drove to York (making a trip of 44 miles), where, through the kindness of Messrs. Rians & Van Eaton, the foundation was made. I only succeeded in getting one good sample on the wrapping paper. As the machine does not seem to injure the paper at the base of the cell, I think this must be an improvement on wood as made by Everhard. Mr. Rians thought it could be made better on a press machine than with rolls.

While glassing some honey the question occurred to me, why not have the comb built the full thickness of the section, as, in using paper caps I have the glass lap the edges of the box? So I

soon put the thought into effect by cutting down 12 boxes 5x6x2, to 5x5x2, and fastened strips $\frac{1}{8}$ inch thick on both sides of the separators where they come between the edges of the boxes, as shown by the sample separator.

You have the result in the sample honey, and as the comb is $\frac{1}{4}$ inch thicker, this 5x5x2 box glasses up as much as the 5x6x2 box, where separators are used against the edges of the boxes. The 12 boxes glassed up 25 lbs.

By this plan I get as much honey in 50 cubic inches as in 60 the old way, and as it will take 143 more boxes 5x5x2 to glass a ton of honey when separators are used the usual way. The saving would be the cost (less expense of caps) of 143 boxes, glass, separators, foundation, crates, hive room, and labor of handling the same, also capping of the combs by the bees; this also gives the consumer about $\frac{1}{4}$ lb. more honey to the box than any other method of glassing. We thought we had our honey racks about right last spring, but as we shall hereafter use boxes no larger than 5x5x2, we must fix the racks all over for next season's use. A better plan to fix strips on separators (than shown in sample) is to cut strips $\frac{1}{8}$ inch square, and slit them

down to within $\frac{1}{2}$ inch of one end with a fine saw, so as to slip them on the separator clothes-pin fashion.

We shall discard tin, and use paper altogether for separators next season.

With the exception of the 12 boxes with separators, arranged so that the combs would be built full thickness of the box, the sample box before you being one of them, we have not fed back only to boxes that were from $\frac{3}{4}$ to not quite sealed over. We made our colonies this season on the nucleus plan, and as a good many of them were without laying queens just in basswood time, we extracted about 200 lbs. from them so as to give room for the queens. This we fed back to finish out the boxes. We fed to 6 hives, and had 425 boxes sealed over.

We were not fixed to feed when the basswood flow of honey ceased, so that, although the honey fed back was very white, the color, as you will see by the sample, is of a darker shade. I suppose this is caused by honey stored from wild flowers. As I kept no account of weight of the boxes when returned to the hives, or the amount fed, I could, of course, give no opinion as to the profit of feeding back.

If the apiarist feeds back honey produced in his own apiary, I see no objection.



tion to his doing so ; but I do doubt its being as good color as when stored from the flowers.

We commenced the season with 84 colonies, the bees doing well early in the season, so that at the close of the fruit blossoms they were in prime order, and showed more signs of swarming about that time than at any subsequent period. The clover flow was very light, and the basswood very heavy. This is about all the surplus we get this year, as the red clover is an entire failure, so that our surplus is hardly $\frac{1}{2}$ of a crop, being not over 2,900 lbs. of box honey, and 100 lbs. of extracted. I expect to winter about 150 colonies.

On account of the failure of red clover, the farmers are trying to get a substitute in its place until the clover maggot is starved out. Some are trying alfalfa clover, and others the southern pea. If any of your readers are posted as to the honey-producing qualities of either of these plants, I should like to have their opinion.

Byron, N. Y., Sept. 20, 1880.

Reports of Honey Crop.

I have 74 colonies in moderate condition ; had no increase by swarming, and no honey worth speaking of ; have sold a few Italian queens and hives.

J. H. THORNBURG.

Winchester, Ind., Sept. 21, 1880.

Commenced the season of 1880 with 114 colonies ; have increased to 164 ; reared 100 Italian queens ; took 4,000 lbs. extracted and 1,400 lbs. of comb honey.

C. M. WOOLVER.

Hallsville, N. Y., Sept. 18, 1880.

This season has been a poor one for honey. I have 350 colonies in good condition. I do not expect any fall honey. My home apiary of 140 colonies are all pure Italians, affording me an excellent opportunity to rear choice queens.

L. LINDSEY, JR.

Waterloo, La., Sept. 23, 1880.

I have 12 colonies in Langstroth hives; poor honey crop this season ; only 60 lbs. will have enough to winter on. I intend getting packing boxes to put over each hive, and fill it with shavings or leaves. There are between 50 and 60 colonies in this vicinity. One man took 40 lbs. from 26 colonies. I would have taken 150 lbs., but received my extractor too late. The BEE JOURNAL is acceptable.

JAMES SHORE.

Germantown, Pa., Oct. 7, 1880.

From 60 colonies in the spring I have obtained 1,700 lbs. of comb honey in sections, and 800 lbs. of extracted—mostly white—and 50 per cent. increase. Loss in wintering in 8 years, 5 per cent.

W. H. FLETCHER.

Ssuk Rapids, Minn., Oct. 5, 1880.

I think the average amount of honey stored this season, in this vicinity, is less than $\frac{1}{2}$ the usual amount. I have in my apiary 60 colonies, from which I have taken a little over 1,500 lbs., as follows : From 30 colonies of Italians, 330 lbs.; from 7 colonies hybrids, 161 lbs.; from 23 colonies of blacks, 1,015 lbs.; total, 1,506 lbs. This I consider about three-fifths of an average. There was every prospect for a good yield from goldenrod, but a cold rain set in a few days after bees commenced to work on it; consequently there was but little surplus stored.

W. H. GIBBS.

Clinton, Mass., Oct. 6, 1880.

Conventions.

Kentucky State Bee-Keepers' Society.

A number of bee-keepers met at the Press room of the Exposition, Sept. 28, pursuant to the call published in the papers. Mr. Thomas G. Newman, of Chicago, being present, was made temporary Chairman, and I. B. Nall, Secretary.

On motion of Dr. N. P. Allen, of Warren county, Messrs. W. T. Sears, of Warren county, B. B. Barnum, of Louisville, and William Williamson, of Lexington, were appointed a committee to report on constitution and by-laws.

On motion, Dr. L. E. Brown and Dr. E. Drane, of Eminence, were added to the committee. After consultation, the committee reported a constitution and by-laws, which were adopted.

The following were duly elected as the officers for the ensuing year : President, Dr. N. P. Allen. Secretary, William Williamson. Treasurer, I. B. Nall. County Vice Presidents—Dr. L. E. Brown, Henry ; B. B. Barnum, Jefferson ; Dr. E. Drane, Shelby ; H. C. Hespeler, Jessamine ; W. T. Sears, Warren ; I. N. Greer, Barren ; John W. Bean, Clark ; L. T. Moberly, Hardin ; A. G. Davis, Cumberland ; Dr. W. Van Antwerp, Montgomery ; J. M. Holman, Fayette ; J. L. Garvin, Hart ; Samuel Collins, Spencer ; Jas. Johnson, Todd ; Dr. S. C. Mitchell, Bourbon ; J. W. Egbert, Mercer ; Willis Adams, Rockcastle ; T. W. Shelton, Logan ; James Erwin, Allen ; Wm. Kelley, Oldham ; Gen.



D. L. Adair, Hancock; J. W. Bagby, Pendleton.

Mr. Barnum nominated Mr. W. D. Aydelotte, of New Albany, Ind., as an honorary member of the Association, and he was duly elected.

Dr. Brown moved that Mr. Thomas G. Newman be made an honorary member of this Association. Carried.

Mr. Barnum nominated Mr. G. A. Vincent, of New Orleans, to be an honorary member. Carried.

On motion, the Treasurer was authorized to purchase books for the Secretary's and Treasurer's use.

Those present then paid the membership fee, and were enrolled.

It was moved and carried, that the annual meetings of the Association be held in the city of Louisville, Ky., on the second Wednesday in October, in each year, at the Exposition building.

On motion, the thanks of the Association were tendered to Col. Maginness, Secretary of the Exposition, for courtesies; also to Col. Bennett H. Young, President of the Polytechnic Society, and Miss Pollard, for use of hall in Library building free of charge.

Dr. Drane suggested that each Vice President call a meeting in his county, and organize a local society as auxiliary to the State Society.

The Society then adjourned to Library Hall, where Mr. Thomas G. Newman delivered a very interesting lecture, and for which a vote of thanks was given him. The Association then adjourned.

N. P. ALLEN, M. D., Pres.
W. WILLIAMSON, Sec.

N. W. Missouri and E. Kansas.

The bee-keepers of Northwest Missouri and Eastern Kansas perfected their organization at St. Joseph, Mo., on Sept. 12, 1880, by adopting a constitution and by-laws and electing the following officers for the ensuing year:

President—D. G. Parker; Secretary—R. S. Musser, St. Joseph, Mo.; Treasurer—B. F. Colt; Vice Presidents—J. P. Rogers, Holt county, Mo.; F. C. Frost, Clinton county; John Merlinn, Andrew county; Dr. H. Johns, Caldwell county; J. Needles, Gentry county; J. Rhodes, Atchison county; J. A. Matney, Buchanan county; Jesse Crall, Atchison, Kansas; G. Lanker, Garay City, Kans.

The following, among other subjects, were selected to be discussed at the next meeting, to be held October 13, 1880, at St. Joseph court house: "The location of apiaries;" "The best mode of wintering bees;" "The moth."

We call the attention of those of our

readers who are interested in bee-culture to the above organization. The bee men of the northwest should connect themselves with this Association at once. There are a great many men in Western Missouri and Eastern Kansas extensively engaged in this business, and they are interested in the success of such an organization.

The good to result from such an association is this: To learn the experience of others and to give your own experience; to learn what plants, shrubs, etc., to plant and cultivate, which will not only be ornamental, but useful as a honey producer. There is not a farm in the northwest but can realize more than enough from honey to pay the taxes, with but little expense. Farmers must learn something about the business to make it a success, and this can be done only by attending the meetings of bee associations and hearing the various subjects discussed which may come before the association.

One great drawback to this branch of industry has been the price of honey. The condition in which honey is brought to market is the sole cause. Those who attended our exposition and visited the aparian department, saw what a fine exhibit of honey was made by Mr. D. G. Parker. Honey in this shape (1 and 2 lb. sections) will bring double the price it will when brought to market in jars, tubs, or in comb in large boxes, and at a mere nominal additional cost.

At the meeting to be held Oct. 13, 1880, the subjects selected for discussion are such as all bee men should be posted on in the fall of the year, so that when spring comes they will have strong and healthy bees ready for work. It is an admitted fact that the best honey in the west is produced in this section of the Missouri valley. The honey keeps longer and is free from acids, which causes honey to sour, and this is due alone to the foliage peculiar to this section of country.

Missouri was the second State in the Union, in 1870, in the production of honey. We publish below, for the information of our readers, the surplus production of some of the counties in Missouri, tributary to St. Joseph, in 1870, as shown by the census that year:

Atchison, 10,608 lbs.; Andrew, 16,183; Buchanan, 7,626; Caldwell, 21,340; Carroll, 29,812; Clinton, 18,891; DeKalb, 10,627; Daviess, 25,052; Gentry, 23,480; Harrison, 46,924; Livingston, 17,331; Holt, 15,670; Nodaway, 15,335; Platte, 12,044; Worth, 17,000.

No doubt the census of 1880 will show, when published, that the production has increased four-fold, which will yield to

the above counties, at 20 cts. per pound, not less than \$150,000 to \$200,000, provided it is put up in shape for market.—*Saturday Democrat*, St. Joseph, Mo.

Canadian Bee-Keepers' Convention.

On Tuesday afternoon, 14th inst., about 60 bee-keepers, representing all sections of the Provinces, and several from the United States and Manitoba, met in the City Hall, Toronto. Mr. R. McKnight, of Owen Sound, in the chair, and Mr. Greenslade, of Toronto, Secretary.

The Chairman, after briefly acknowledging the honor conferred upon him, referred briefly to the necessity for a Canadian Bee-keepers' Association, through which the freest interchange of thought and experience in reference to this important industry could be had. There was sufficient indication given of the capabilities of honey production in Ontario in the case of Mr. Jones, whose apiary yielded 70,000 pounds of honey per annum, gathered from a single township. He hoped they would endeavor to get as much practical information as soon as possible during the meetings of the Convention pertaining to apiculture and the marketing of bee products.

On motion, a committee was appointed to draft a constitution for the Association, also a committee to select subjects for discussion.

The Chairman said that most of the gentlemen present, like himself, had come to sit at the feet of those who were able to impart instructions in bee-keeping. He was glad to see that they had several old and experienced bee-keepers present, and a relation of their successes and failures would be of benefit. He called on Mr. Jones, whose name was widely known as one of the most successful bee-keepers in America, and to whose efforts they were mainly indebted for the getting up the Convention, to address the meeting.

Mr. Jones, in response, said he had not expected to be called upon to address the Convention at any length, and he would only offer a few remarks on the present styles of bee-keeping. He was very sorry to see that the old modes were still practiced by a great many whom, he hoped, would soon abandon them for something more sensible. It would hardly be necessary for him to say that the ordinary plan of bee-keeping in box hives and killing with brimstone was a cruel one. He found in the East, where the people were very much behind in other respects, that they were ahead in this. Instead of using the

brimstone pit they had long clay cylinders, and when the bees filled a cylinder they were driven to one end by the use of smoke till the honey was extracted. He thought however, that our modes of bee-keeping had improved so much that Canada stood second to no other country in the world in this respect. Canada offered better inducements to bee-keepers than countries farther south, because in warmer climates the honey was poorer in quality than that collected in a cooler climate. He then described his methods of in and out-door wintering, feeding, etc.

Rev. W. F. Clarke, said that wintering was the great difficulty in Canadian bee-keeping. He said a most interesting subject at the Convention in Chicago was the question whether the tongue of the honey bee could be elongated, whether they could get a race of bees with tongues sufficiently long to get at the red clover, and they had a very interesting series of experiments on this point from Prof. Cook, of the Michigan Agricultural College, who was perhaps the most scientific bee-keeper of the age. It was generally believed, however, that there were races of bees in advance of Italians in this respect, and one of these especially was the Cyprian bee, of which Mr. Jones, during his recent exploring tour, had imported a number. The quicker the Canadian bee-keepers marched right into the forefront in this respect the better, and Canada was one of the best honey-producing countries in the earth.

At the suggestion of Mr. Clarke it was decided to hold an open-air meeting in the bee department on the Exhibition grounds this afternoon, at 5 o'clock, when Mr. Jones will give a practical illustration of his methods.

The meeting then adjourned, to meet at 7:30 p. m.

EVENING SESSION.

The Committee on Constitution reported and the Constitution as reported was adopted.

The Committee on Subjects for Discussion, reported. "The old system of bee-keeping—does it pay?" was decided by a ruling of the chair in the negative, united with the hope that the bee-keepers of Canada would abandon the old style.

The question of "Artificial vs. Natural Swarming" was discussed at considerable length, the contest lying principally between Mr. J. B. Hall, of Woodstock, who favored natural swarming in some cases, and Mr. A. J. McKay, of Underwood, who believed that wherever practicable the artificial system was preferable. Mr. D. A. Jones,



of Beeton, Dr. Shaver, of Stratford, and other gentlemen in the course of the discussion, gave their opinions backed by relations of their own experience, the preponderance of opinion being evidently in favor of artificial swarming, save under exceptional circumstances.

Mr. Jones was asked "How far apart would you keep the hives on one farm?" Mr. Jones replied that the distance between his hives in the row was 3 feet, and between the rows 6 feet.

Question.—Have you any choice in the direction in which your hives face?

Mr. Jones answered that it might be a notion of his, but he preferred the hives facing east and south.

Mr. Hall, I think it is a notion. My hives faced in every direction. I have noticed no difference.

Mr. McKay claimed that the bees in the hive on which the sun shone early got to work early, and that was an advantage.

Several important and interesting subjects were discussed. The best method of "breeding pure queens" was considered at some length, as was also "the province and value of drones in breeding."

On the subject, "The best method of marketing honey," Mr. D. A. Jones gave some information calculated to be of use to bee-keepers and of no little interest to the general public. He stated that while in England he had made particular inquiries as to the means of marketing honey. He had been told by one firm that they would gladly give 22c. per pound for 100 tons of extracted honey. He trusted that they would be able to so arrange that they could send their honey direct to the dealer in England, and he believed that the Association could be so well organized, and become so well known, that the English dealer would order direct from them. If this was done, he had no doubt that they could find a market at good prices for all the honey they could produce. He believed, however, that if the honey was put up in small and appropriate packages, held until the market was ready for it, and judiciously distributed throughout the country, there was no fear that within the next ten years they would raise enough honey to overstock the market of Canada.

The Association then proceeded to the election of their officers, with the following results:—President, D. A. Jones, Beeton; Dr. Shaver, Stratford, 1st Vice President; Hon. Lewis Wallbridge, Belleville, 2nd Vice President; R. McKnight, Owen Sound, Secretary and Treasurer. F. Webster, Toronto; Rev. W. F. Clarke, Listowel; J. G. A.

Wallace, Brighton; J. B. Hall, Dr. Duncan, Embro, Executive Committee.

The duty of filling up the list of county representatives was left to the Executive Committee, as was also the duty of drafting a set of by-laws.

Mr. D. A. Jones and Rev. W. F. Clarke were appointed delegates of the Association to the National Bee-Keepers' Convention of America, to be held in Cincinnati.

North American Bee-Keepers.

ELEVENTH ANNUAL CONVENTION.

The Eleventh Annual Convention of the North American Bee-Keepers' Society, met in Bellevue House Hill, Cincinnati, Ohio, on Wednesday, Sept. 28, 1880, at 10 a.m., President Thomas G. Newman in the chair.

The Secretary, Dr. E. Parmly, read the minutes of proceedings of the 10th Annual Convention, which were approved.

The roll of membership of last year was read, after which the payment of annual membership fee and distribution of badges took place.

The Secretary read the following correspondence, which was ordered placed on file:

Abbot's Hill, England, Aug. 9, 1880.
PRESIDENT NEWMAN:

MY DEAR SIR.—I am very much obliged for your kind and cordial invitation to attend your annual National Convention at Cincinnati, on Sept. 29th, 30th and Oct. 1st. I should have had great pleasure in accepting it and in being present, had I not consented to act as secretary of the H-mel Hempstead Poultry Show, which falls on the two last days of September, and which I must remain at home to arrange. We have just brought our annual show at South Kensington to a conclusion. It was a very successful one and remained open for a week.

Mrs. Peel and all the members of my family beg to be most kindly remembered to you, and I remain yours very truly,

HERBERT R. PEEL.

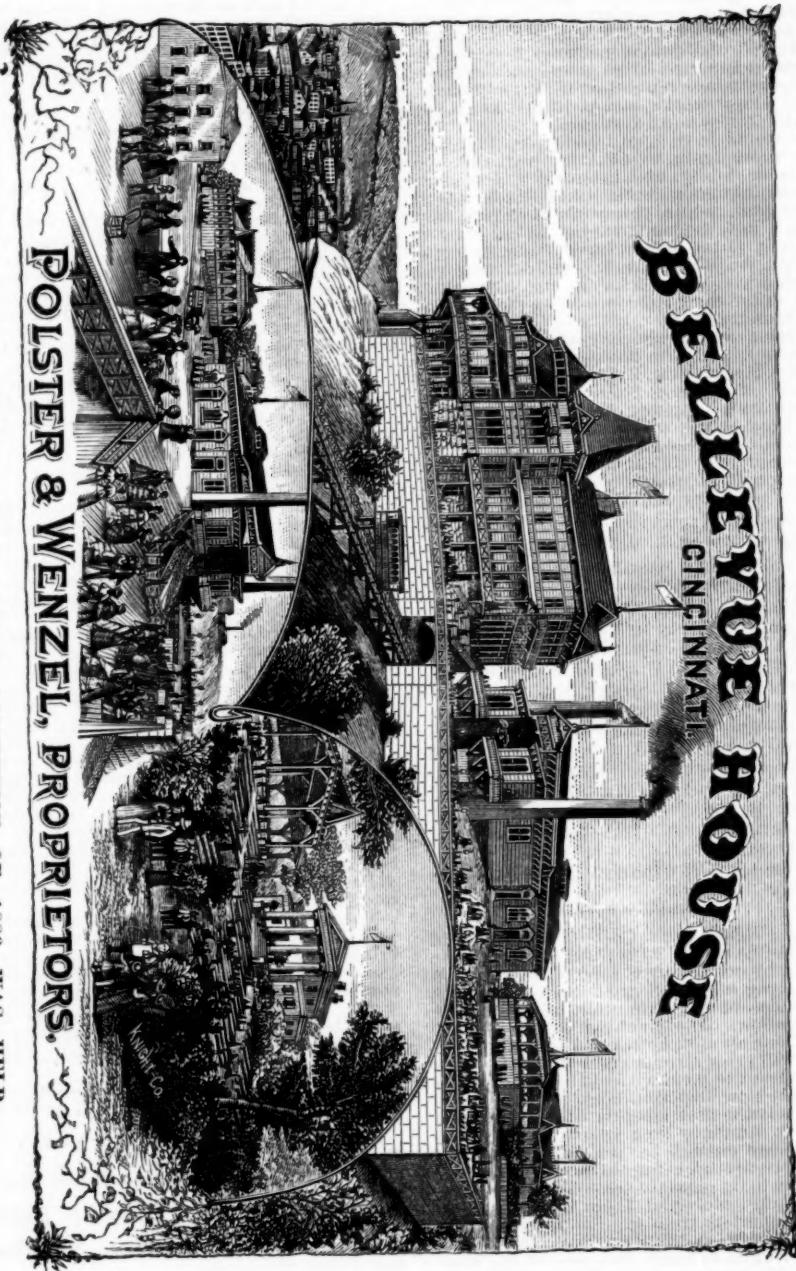
Nyon, Suisse, Aug. 27, 1880.
To the Hon. T. G. Newman, President of the North American Bee-Keepers' Society.

DEAR COLLEAGUE AND FRIEND:—I have received your letter of July 24th, by which you do us the honor to invite my wife and myself, also my colleagues M. C. de Ribeaucourt, President of the Romande Society, and M. J. Jeker, editor of the Schweizerische *Bienen Zeitung*, to attend your Convention at Cincinnati, Ohio.

I have communicated your amiable invitation to my colleagues; they have requested me to inform you that they appreciate your kind invitation, but on account of their duties as pastors, and for other reasons, they cannot absent themselves; and my wife and

THE AMERICAN
BEE JOURNAL

A VIEW OF THE CELEBRATED HILL-TOP HOUSE,



SHOWING THE RAILROAD FROM THE CITY TO THE HILL-TOP,

POLSTER & WENZEL, PROPRIETORS.

WHERE THE NATIONAL LEE-KAMPERS' CONVENTION OF 1880 WAS HELD.

WITH THE PAVILION, AT CINCINNATI, OHIO,



myself regret that we cannot spare the time to undertake such a long voyage.

Your invitation is certainly very attractive, and nothing would have given us more pleasure than to attend one of your grand and *celebrated* annual meetings, and to make the acquaintance of so many eminent bee-keepers, whose reputation we already know, and whose works and writings we study with interest and advantage.

It would have been a great pleasure to us to see you again, to make the acquaintance of your family, and to spend a few more pleasant hours together, like those we spent with you, while you were at Nyon, last year; but the undertaking of so long a journey is too much for us, and, unfortunately, we shall have to confine ourselves to send you our thanks for the invitation, and at the same time our deep regrets that we cannot attend.

Please accept our congratulations for the way you fulfill the double duties of editor of the *AMERICAN BEE JOURNAL* and of President of the National Bee-Keepers' Association. Accept, also, our best wishes for the success of the Convention whose proceedings interest us so much.

Accept, dear colleague and friend, the expression of the most affectionate feelings of

Yours most devotedly,

ED. BERTRAND.

Mr. Williamson, of Kentucky, offered the following resolution, which was unanimously adopted:

Resolved, by the North American Bee-Keepers' Society in Convention assembled, That we return our thanks to Rev. H. R. Peel, England, and Mons. E. Bertrand, Nyon, Suisse, for the fraternal feelings expressed by them towards the bee-keepers of North America.

The Secretary read a fraternal and congratulatory letter from Vice President S. C. Dodge, Chattanooga, Tenn., inviting the Convention to fix upon Chattanooga as its next place of meeting.

President Newman delivered the following

Annual Address.

My Friends and Co-Laborers: Bound together as we are with fraternal ties, made strong by our common interest in bees and honey, we may well greet each other with our pleasantest smile and heartiest congratulation. As we get to know and understand one another better, our ties of friendship will grow stronger and stronger. It is so pleasant to meet with old faces as well as to make new acquaintances.

This is the first meeting of the National Society, for many long years, that has been held near enough to the borders of our southern brethren for them to participate with us in its pleasant sessions and interesting discussions—and I am glad to see so many apiarists from the South to welcome and greet their brethren from the North. Let all unite to make this one of the most profitable sessions of the National Society.

We have come from the East and West, from the North and the South, not only to

have a pleasant re-union, but to discuss matters of interest to those present, as well as to the thousands who are waiting with great anxiety to see the record of our sayings and doings. While giving the strongest arguments, let us be careful not to use words that will wound the feelings of those who may think differently from us, Aye, "let us spread liberally the cement of brotherly love and affection—that cement which unites us into a Society of friends," having but one object—and that the furtherance of the science and art of progressive apiculture.

At the last meeting of the National Society, it will be remembered, I made this remark: "We should agree upon a price that will pay for production, and at the same time not retard consumption, and then all should be guided by this, thus aiding to establish a regular market price for honey, the same as is obtained for wheat, corn and oats." It is certain that "in union there is strength." That which in an individual capacity none of us could accomplish, is easily done by a strong, united and influential body. As an illustration, the last meeting of this Society appointed a committee to wait on the postal authorities to get reversal of the order prohibiting the use of the mails for transporting queen bees, and though many individuals had often petitioned that functionary, it was not accomplished until this body took the matter in hand. We are now in the enjoyment of the result of our united action in this particular.

I have earnestly labored for some time to bring about such a unity of feeling and action, that, as a body, this Society might regulate the prices for honey, based, of course, upon the "supply and demand," and the cost of production. I am much gratified to see that each year some point is gained in this direction. In this manner only can we ever make honey a staple product, and have its marketable value alike in every locality, the cost of transportation only excepted. Illustrations are numerous, where prices obtained for honey of the same quality vary 5 to 10c. per lb. in places only a few miles distant. It is never thus with grain, meat nor dairy products.

To act understandingly, we must ascertain the extent of the crop, and by considering it in connection with the demand, we can determine the value, and if we can but combine, *maintain* the price so established.

This season, facts and figures from all parts of the country, indicate that the entire crop for 1880 will be but one-half of the usual supply.

In Arkansas, Kentucky, Minnesota, Mississippi, Tennessee and Vermont, there is about an average yield.

In California, Michigan, New York and Virginia, $\frac{1}{2}$ of the usual crop.

In Alabama, Canada, Missouri and Ohio, one-half.

In Connecticut, Iowa, Louisiana, Maine and Pennsylvania, one-third.

In Indiana, Georgia, Kansas, Nebraska and Texas, one-fourth.

In Illinois and Wisconsin, much less than one-fourth of the usual crop.

The season has been unfortunate for

honey production on account of the unpropitious weather. Bees were strong in numbers, and active in disposition, but it was all in vain—the nectar was absent from the bloom; they could not gather that which did not exist. But are we disheartened? No, certainly not; we may feel somewhat discouraged, but are in no mood to give up. Does the loss of a crop of grain dispirit the farmer? Does a season of cattle plague cause the herdsman to give up the rearing of cattle? Does the failure of a crop of fruit result in the abandonment of fruit culture? Or, does the burning of a city cause its permanent desolation?

No! Such reverses only stimulate the progressive and undaunted man to further diligence and more dauntless courage. So we, who have suffered a partial failure, even for the second time, will, with courage enhanced by our reverses, labor even more zealously for "the years of plenty" yet to come, when thousands of tons of nature's sweetest nectar will be gathered by our bees and all will rejoice over a magnificent yield and a golden harvest, filling our markets with honey and our pockets with money.

Several of the Vice Presidents having resigned, I have appointed others to fill the vacancies, as provided by the Constitution.

The subjects to come before this Convention are varied and momentous, and I trust, we shall exercise our best and most matured judgment. As the programme issued by the Executive Committee is in your hands it is unnecessary for me further to enumerate. The general prosperity of the Society is a subject for congratulation. It is steadily increasing in numbers and influence, and each successive meeting has been adjudged better than its predecessor; I therefore, trust this will eclipse the meeting held at Chicago, a year since.

In conclusion allow me to thank you for the honor of being twice unanimously elected as your presiding officer. I have endeavored to serve you faithfully, and have left no work undone, that, according to my judgment, would advance the interests of this Society and be advantageous to the apiarists of America. To make this Society national in its character, and world-wide in its influence has been my aim. How far this has been accomplished I leave it to you to determine. When my successor is elected I shall be most happy to welcome him to this chair, with all its honors and responsibilities.

Permit me to add that I have been earnestly solicited by many members of this Society to consent to serve as your President for the coming year. I fully appreciate these well-meant solicitations but, believing that the prosperity of the Society will be enhanced by the election of some one else to that office, I must *positively decline* to accept it. I shall, however, give the Society my cordial support, and assist it by every means in my power to become even more prosperous and useful than heretofore. Again allow me to thank you for all the honors you have conferred upon me, and to express the hope that this meeting will be both interesting and profitable to you all.

The Secretary and Treasurer's reports were read and approved.

The Executive Committee made the following report, which was adopted:

The Executive Committee would respectfully report that they have, in accordance with the instructions given at the last meeting, prepared badges for the use of members to designate them from others. They have also prepared letter heads, programmes and membership tickets, and made all necessary arrangements for the present meeting, and hope that it will be, in practical value, second to no Convention ever held by this Society. In reference to the letter headings we caused to be printed for the use of the officers of this association, Dr. W. W. Hipolite, Vice President for Arkansas, remarks as follows:

"Not long since I received some printed letter heads for the use of Vice Presidents of the National Bee-Keepers' Association, and find them exceedingly well gotten up. I think the person who originated the idea is entitled to the thanks of the Association. When communicating with the officers of our State Fair or other Associations, or with others in the interests of our Society, it looks as though we had an existence as such, and not merely in name."

Vice Presidents' Reports:

S. C. Dodge, for Tennessee, under date of Sept. 25, reports the season to have been a poor and unprofitable one for honey-producers and queen-breeders in his State. He has been encouraged to do but little to advance the cause of apiculture in his section, and has made no attempt at the organization of societies, etc. The winter of 1879-80 was very mild, and bees came through splendidly; fruit and white clover blossomed everywhere, but the season was so wet in the spring that the flowers secreted very little nectar, and all summer long the bees have barely had enough to keep up moderate breeding, with little or no swarming or surplus. At present the golden rods are in bloom and the white aster is just beginning to open. These are our main reliance for winter supplies. I feel warranted in predicting heavy losses during the coming winter, especially with those bee-keepers who let their bees take care of themselves, and we have many of that kind in this section.

C. F. Muth, for Ohio, made an extract from the Secretary of State's report for 1880, showing that State to contain 169,755 colonies of bees, and to have produced 2,521,000 lbs. of honey during the year 1879.

Dr. W. W. Hipolite, for Arkansas, responded by letter. He anticipated meeting with the Convention, but at the last moment was prevented by urgent professional duties. He also adds: In thus failing to respond either in person or by report I would not have the Society judge that I have neglected



the duties pertaining to my office as Vice President. I have at all times endeavored to promote the interests of bee-culture in this State; and have the satisfaction of seeing the old "gum" give way to movable-frame hives. As you are aware I have induced our State Fair Association to make a separate class and offer liberal premiums for the best display of bees and honey, &c., "in the most marketable shape." I have paved the way, also, for my successor in office to organize a State Bee-Keepers' Association at the time of our State Fair, to be held about a month hence.

The following letter was also read :

De Vall's Bluff, Ark., Aug. 7, 1880.

Mr. President—My Dear Sir—By referring to the premium list of the 13th annual State Fair of Arkansas, which is to be held in Little Rock in October, you will see how the interests of bee-keepers have been cared for in this State. In accordance with the suggestions which you made to the Vice Presidents of the National Society, through the AMERICAN BEE JOURNAL for February. I placed myself in communication with the official board of our State Fair Association, and submitted a list with a recommendation that it or something similar be adopted as a basis for the premiums which it was hoped would be offered for the products of the apiary. My list has been adopted and a separate class—Class K—made for honey, etc. You will please notice that the premiums awarded for honey will be for the best "in the most marketable shape." The words quoted I consider important to prevent the awards being given to honey which in itself may be equally fine, but stored in a common "cap." This has been done. W. W. HIPOLITE.

Dr. N. P. Allen, for Kentucky, reports bee-keeping in a prosperous condition in that State. Bee-keepers' Associations have done much to disseminate that knowledge that enables man to prosecute bee-keeping intelligently and profitably. The standard works on the management and culture of the honey bee, with the periodicals that are published monthly, devoted to scientific and practical bee-culture, and the production and sale of pure honey, have been scattered broadcast over the State, and have done a great work in dispensing the dark clouds of ignorance that have hung over the minds of the people, and of opening the eyes of the bee-keeper to new fields of thought and investigation. The consequence is many have thrown away the old box-hive, and have adopted the movable-frame hive, have procured the Italian bee, and have supplied themselves with honey extractors, bee smokers, honey boxes, sections, comb-foundation, and such other useful inventions as will enable them to prose-

cute bee-keeping profitable and pleasantly. Thousands of pounds of both extracted and comb honey are now produced where none was obtained a few years ago, and I feel justified in saying there is no State better adapted to bee-culture and the production of honey than Kentucky. With her forests of poplar and linden, her mountains and plains so rich in bee-forage, her fields covered with blue grass, inviting the busy bee to come to the "feast of fat things"—milk and honey, almost without money and without price. I would report that we have organized a State Bee-Keepers' Association, and that we have 3 other associations in the State, all of which are doing a good work. I am satisfied there is not more than half an average honey crop this season. Bees are in good condition for winter. I earnestly advise all to make proper preparations for winter, and leave nothing undone that will conduce to the safety, and comfort of the bees during their long winter imprisonment.

Dr. J. P. H. Brown, for Georgia, reports the honey crop of the entire State will not be over $\frac{1}{4}$ of an average. The latest report of the Commissioner of Agriculture of the State, that contained anything in reference to bees, estimated the number of colonies in the State at 77,135, which is only one colony and a fraction to each square mile. The average yield of honey per colony is put at 28 lbs. Total product 2,159,780. The bulk of the bees are kept in the old-fashioned box-hive, and all wintered on their summer stands. In many places movable-frame hives are being introduced, and also Italian bees. The major portion of the honey taken is of an amber shade, rather dark, but of fine flavor, and when in new comb, it presents an inviting appearance. The honey is mostly obtained from the natural flora of the country and not from crops cultivated.

D. P. Norton, for Kansas, reports as follows: It is impossible even to approximately estimate the honey crop of this State at this date, though it may be safely put down as light. The honey harvest in the State comes mainly in September and is not yet secured. I would not estimate it to exceed $\frac{1}{4}$ to $\frac{1}{3}$ an average.

P. P. Collier, for Missouri, says: In making up any report for Missouri, I find from various correspondence in different localities, a very slim crop of honey up to Sept. 1. The heavy loss of bees last winter and spring, the great effort to build them up again, and the continued dry weather, both early and late, is the main cause of the failure in

the honey crop of Missouri. Most reports are good on increase and good condition of the bees at present for winter quarters, and, with Providence smiling upon us, we feel that Missouri will take her place among the great honey-producing States. At present, we report about one-fifth crop of honey, and 75 per cent. increase in colonies.

Paul L. Viallon, for Louisiana, writes: I had made preparations to assist the National Convention of Bee-Keepers, at Cincinnati, and, as stated before, intended to write an essay to be read. But, as luck will have it sometimes, I have been confined in my room for over 2 weeks, suffering from a neuralgic pain in the head, caused by a catarrh, and, though still suffering, I thought of informing you of the cause of my absence, &c. Having to give up the idea of having the pleasure of meeting so many friends, I have also to regret not having been able to gather my notes and write the essay promised. With all the wishes of a great success, I am in the hope to meet you all at the next meeting.

H. L. Jeffrey, for Connecticut. So far as I can learn from all the bee-keepers I have seen throughout the State, I cannot report more than half a crop of honey, though a fair per cent. of increase by natural swarming. A very few of the practical Italian bee-keeper, who have made a practice of suppressing increase, have received a good surplus in box and extracted honey. A kind of foul-brood is showing itself epidemically.

Adjourned till 1:30 p. m.

AFTERNOON SESSION.

The Convention proceeded to the selection of a committee of five, to nominate officers for the ensuing year with the following result: W. Williamson, Kentucky; Chas. F. Muth, Ohio; Dr. Ehrick Parmly, New York; A. I. Root, Ohio; Dr. J. P. H. Brown, Georgia. The committee were instructed to report to-morrow morning.

The Secretary read a letter from Prof. A. J. Cook, of Michigan Agricultural College, regretting his inability to have his essay on "The Tongues of Different Races of Bees," ready for use in this Convention. He is particularly desirous to make an accurate and exhaustive examination, and give a report that may be wholly reliable; to do this, he will require more time, but when satisfied with the prognosis, will publish the conclusion reached in the BEE JOURNAL.

Individual reports for the season were now called for; only 37 responded in

detail. Of those responding, but few reported an average yield. Six reported no honey; fourteen had secured very little; seven reared and sold queens, but had obtained no honey; forty-four had made bee-keeping profitable the past season, while eighteen had not succeeded so well. Very many failed to respond to the call.

The following paper was then read on **Honey-Producing Plants, Trees and Shrubs of Kentucky.**

There is no subject of more importance to the bee-keeper, nor is there one that gives him more pleasure than the study of honey-producing flowers. No matter whether they bloom in the garden, the field or the forest, or perchance along the roadsides, if our bees gather honey from them, they at once become an object of interest and investigation. The question of bee forage is one that every one engaged in bee-keeping should investigate, for upon the amount and duration of honey-producing plants in the vicinity of the apiary depends the success or failure of the enterprise.

We do not deem it necessary or important to mention all the flowers that bees work upon, as there is scarcely any flower that blooms in this latitude that does not afford either honey or pollen to some extent; but we shall confine ourselves to such as we consider the most valuable for honey production, that are native to Kentucky, and also to such as we believe are worthy of cultivation for bee pasture.

First, then, we have the elm, the elder, the hazel and the willow, that bloom in February, and in warm winters in January. They afford mostly pollen, and but little honey. Next in order come the maples—the red, the silver-leaf and the sugar maples. They are valuable in stimulating early brood-rearing, furnishing an abundance of pollen, the staff of life to the honey bee, as bread is to man. In March the wild plum and red-bud or Judas-tree, bloom in rich profusion, and the hum of the little worker is music to our ears as they gather in the rich stores at their command. As the season advances to the last of March and 1st of April, the peach begins to open its honey-laden flowers, and, as it were, to invite the busy bee to a rich feast of fat things. Then the strawberry begins to blossom, and the cherry opens its snow-white flowers. The pear and apple come in quick succession, and the busy hum of the little bee fills the ears and heart of the bee-keeper with ecstasy and delight, as well as pleasant thoughts that feeding time is over, and the bees are preparing, by raising brood in abundance, for the golden harvest just ahead. The black locust, blackberry and raspberry begin to bloom the first of May, and our bees gather an abundance of honey from them, of rich, delicious flavor, though but little of it is ever taken, as it is consumed by the bees in rearing brood. The poplar begins to bloom about the middle of May, and affords more honey than any forest tree with which we are acquainted. Its cups of golden nectar often run over, and our bees gather honey so rapidly that we are astonished at



the progress they make in filling their hives and in comb-building.

Next comes the king of honey-producing plants, the white clover, and it continues to bloom through the month of June. It stands pre-eminent as a honey-producing plant, and its honey is praised for its snowy whiteness and its delicate flavor. From the middle of June till the middle of July the linden blossoms, but as it is very rare in Kentucky, the crop of honey gathered from it is confined to certain localities in the mountains and on the water-courses. It is rich in white honey that has a pleasant balsam flavor. During July and August the sourwood, prickly ash and sumach blossom, and as they come into bloom between the spring and fall honey harvest, are valuable, as they keep up brood-rearing, and when abundant near the apiary, and the atmospheric conditions are favorable to the secretion of honey, they afford a surplus of nice honey for the bee-keeper.

In July the yellow-wood and coral-berry or St. John's wort, add greatly to the crop in localities where they are found. The coral-berry continues to bloom through August, and is a valuable honey-producing shrub that grows in waste places. Its beautiful red berries adorn our highways, and are valuable as food for sheep and cattle. The smart-weed furnishes forage for bees in August and the early part of September.

The goldenrods and asters come in September and October, and continue till frost, Where they are in abundance, bees often fill their hives with the richest of honey, and the bee-keeper gets a large surplus for his share.

Many cultivated plants are used for food by man or beast, that afford rich bee-pasturage, and I will take occasion to say that I cannot recommend the cultivation of any that cannot be utilized in some other way besides for the honey they furnish. Quite a number are valuable for seed crops or food for domestic animals. The raspberry and gooseberry are valuable as honey producing shrubs and for their delicious fruit; turnip, rape, strawberry and buckwheat, all pay both ways and should be cultivated extensively by bee-keepers. White clover is worth all the other varieties as a honey plant, besides it is valuable for pasture and hay. I recommend its production and cultivation. The various kinds of mustard are worthy a cultivation for seed crop, as well as bee forage.

I have not attempted to catalogue the honey producing plants, trees and shrubs in full, but only such as are thought the most valuable for production and cultivation by the honey producer. I am aware that there are many flowers that produce honey, besides those mentioned; some more, and some less valuable to the apiarist; but I think that I have called attention to such as are most worthy of our consideration and cultivation.

In locating an apiary for honey production, one should have an eye to the amount of bee forage in reach of the location; for no amount of labor and skill in the manipulation of our bees will pay where it is wanting.

N. P. ALLEN, M. D.

Smith's Grove, Ky.

H. R. Boardman, Ohio.—My bees have obtained a considerable quantity of honey, and I can attribute it to no source but the sap from the oak trees. I have frequently observed my bees working in large numbers on the twigs and limbs of the oaks, and especially on the smaller ones, but most frequently on the twigs, which seem more than usually covered with galls. (Mr. Boardman here exhibited a small burr oak limb which was thickly covered with galls or small nut-like excrescences, which give it a warty or knotty appearance).

Mr. Muth, of Ohio, recommended melilot or sweet clover to plant for the bees. He thinks it will most admirable fill the gap between white clover and basswood in the spring, and goldenrods and asters in the fall.

Mr. Coffinberry, of Illinois, thought sweet clover could not be too highly commended to bee-keepers. For several years the subject of bee forage has engrossed the attention of some of the leading ariarists and scientists in the country, and many were being forced to the conclusion—as all would be eventually—that it will pay to plant for honey. If, on an average of one year in four the necessity of feeding to winter through can be averted by a judicious selection of self-seeding plants, it will have paid, and even if the seasons of total dearth are less frequent, the stimulation it gives to brood-rearing in mid-summer, from the perpetual inflow of honey into the hives, and the subsistence it would afford after extracting closely at the end of the white clover and basswood season, thus keeping the colonies strong to take advantage of spontaneous fall bloom, will much more than repay the trouble of planting. The speaker would not recommend the apiarist to confine themselves to a single plant. During several years' experiments in the BEE JOURNAL Apiary, he has formed a most favorable opinion of mammoth mignonette (*reseda grandiflora*), as it blooms early, late and continuously, from spring till winter, and bees work on it in the morning and all day long till night. He had in his garden frequently observed bees working on balsams or lady slippers. The plant is strong and very hardy, and a profuse bloomer; it possesses the rare advantage of being disliked by cattle and other animals; even rabbits would not eat it. He hoped bee-keepers would test it thoroughly. Catnip and motherwort were well worth attention, and every waste place should be well seeded with them. They require but little encouragement, and the bees would prove

most grateful recipients of such favors bestowed on them, and repay it ten-fold in honey.

Samuel Fish, Ohio, endorses spider plant as a most excellent honey plant; he thinks it one of the best.

The Secretary read the following paper, entitled

Bee Pasturage.

Mr. President and Gentlemen of the Convention: As our honey crop mainly depends upon certain honey plants, it necessarily follows that our bees should be provided with them, so that they can collect nectar from early spring to late autumn. These plants should be kept in abundance so that when there is plenty of saccharine secretion in them the bees will not be obliged to stay at home.

Many bee-keepers think no more about bee-pasturage than they would of feeding the beautiful songsters of the woods. "Tis true" they may believe there is an abundance of honey plants growing wild, under the best circumstances that nature will permit. Though this may be so with many localities, it is not so in all places. The basswood which may grow with great luxuriance here, and the bees get a good flow of honey, a few miles further on there may be none of it. Where field flowers full of rich honey are in abundance, bees will commence to gather surplus early in the season.

All kinds of honey plants are not favorable to all locations; the basswood will not grow where it is wet and marshy; in such places the willow, maple, golden rods, and Spanish needles grow abundantly, and in such locations bees may have very little surplus in the early part of the season while in autumn they will have every cell filled with the most delicious honey. The white clover is fast becoming the best honey plant for it is genial to nearly all soils and can be found every where, along the roadsides, in the meadows, and in the pastures, and in my opinion it blooms longer where cattle are herded than elsewhere.

About 20 rods from my apiary is a field of 130 acres, used for herding cattle, and to-day the white clover is blooming with the same luxuriance that it did in June, and the bees are filling their hives with honey gathered from it. There are years where the white clover has yielded no honey and bees have had to gather from other sources. As bee-keeping is fast becoming one of the great industries of America, we must provide our bees with ample bee-pasturage; if not limited to a few kinds, let there be great variation in the time of bloom. When the season is wet, white clover contains no honey, then buckwheat and borage must supply its place; the latter I believe is one of the most productive honey plants we have.

Let every bee-keeper produce as much honey as possible, so that others may be induced to recuperate, and that they may have pleasure as well as profit. Virgil says:

"The gifts of heaven my following song pursues,
Aerial honey and ambrosial dews."

L. H. PAMMEL, JR.
LaCrosse, Wis., Sept. 19, 1880.

A. A. Freidenburg, Ohio, had expended \$40 for honey plants. He put in about 150 feet square of mignonette (*reseda odorata*), and has not realized one-fourth its cost. Lady-slippers or balsams are good. Last fall he gathered about 1,000 roots of the Simpson honey plant, and knows he has been well repaid for his trouble. He has tried spider plant, and likes it. The blossoms are so shaped that the rains do not wash out the nectar.

Rev. L. Johnson, Kentucky, was decidedly in favor of planting for honey. He thought a variety of plants was best. Some seasons one plant would bloom and yield largely of nectar, while another might not prove satisfactory, and *vice versa*.

Mr. Harrington, Ohio, hoped the gentlemen present would not overlook the many excellent qualities of ground ivy. It was a hardy, thrifty plant; would grow anywhere, and under the most adverse circumstances; if you turned it upside down it would blossom up from the other side, and you could not kill it with a club; besides it was such a proverbial bloomer, that the season when it failed to blossom you would have no taxes to pay.

R. B. Price, Ohio, suggested lucerne or alfalfa clover, which had been extensively grown along the banks of the Ohio river by the late Mr. S. Mangold.

P. W. McFatridge, Indiana, spoke favorably of buckwheat, and said that aside from the honey, the grain obtained from it would always amply pay for its cultivation.

D. A. Jones, Ontario, said there was nothing equal to Bokhara clover. It blossoms early in the summer, and till winter kills it; the stalk is strong and well set, growing from 5 to 10 feet high, and well covered with bloom. He was so well pleased with it that, after several years' trial, he will this fall plant 28 acres of it. The plant has often been identified as melilot or sweet clover, but the speaker thought he could detect a difference.

Question.—Do you think it will pay to plant it with a special view to its honey yield?

Mr. Jones.—Yes sir; I know it will.

A. Benedict, Ohio, has observed that the flow of honey to the flowers is like that of sap in the trees, and an adverse wind will dry it up. He has often been in the forests while making maple sugar, and with a favorable wind the sap would flow in a continuous stream and sugar-making would go on very satisfactorily; but if the wind changed to come vigorously from a northerly direction, the flow of sap would cease, and with it the



sugar-making till the wind changed to a more favorable direction.

Mr. Boardman, Ohio, has had a little experience with spider plant and figwort. He does not think much of the former, as the flow of honey is not continuous during the day, and after the early morning hours the bees do not work on it; but with figwort the case is different, and the bees visit it at all hours of the day. He thinks it will pay bee-keepers to cultivate it.

A. I. Root, Ohio, is satisfied cultivation does much in developing any honey plant, and will greatly increase the quantity of nectar.

S. T. Pettit, Ontario, called attention to the hawthorn or thornapple of this country. Its time of bloom was very opportune for the bees, and its nectar so easily obtained and so fragrant that bees would fly a long distance to work on it. Where a hawthorn bush was in bloom, vast numbers of bees could always be found.

D. A. Jones, Ontario, was called up to give his views regarding over-stocking. He thinks it very difficult to overstock any good location with bees. He has 300 colonies in his home apiary, and at another locality but a few colonies, entirely out of range from any other bees. This latter bee range is quite as desirable as the former, and the bees equally as good and strong, yet they store no more honey per colony. He has visited many apiaries in the East with 1,000 to 1,200 colonies in one place, and that, too, where appearances indicated that 6 or 8 miles afforded no more nor better pasturage than 2 or 3 miles would in America. He is satisfied that over-stocking is an imaginary evil, and one of the improbabilities in a good locality for bees.

Adjourned till 7 p. m.

EVENING SESSION.

President Newman invited Vice President Dr. J. P. H. Brown to the chair, and gave the following address on the

Improved Race of Bees.

To obtain the best results we must possess the highest grade of bees that it is possible to obtain. Our object being to elevate the race, there must be no backward steps; no deterioration should be countenanced; no thoughtless or hasty work must be allowed—but after carefully weighing the matter the most thorough and rigid treatment should be employed, all looking to the advancement of the art and science of reproduction, and the building up of a strain of bees that will give the very best of results.

In developing the highest strain of horses, not all their offspring are equal to the best; careful selection of those coming the nearest to the ideal animal must always be chosen, from which to breed, and the

closest scrutiny is necessary while making that selection. The same is true of cattle, sheep, hogs, poultry, and bees. "Sports" and "variations" continually occur, producing inferior progeny; but all careful breeders who have an eye to the improvement of the race will reject those that do not come up to the "standard of excellence;" sending such animals and poultry to the shambles—so let us carefully select the best queens and drones to breed from, and remorselessly sacrifice all others.

Five points are essential to govern the selection: they must be prolific, industrious, docile, hardy, and beautiful in appearance.

The queen must be prolific, to be able to keep the hive full of bees, to gather the honey harvest when it comes; the bees must be industrious to let nothing escape their vigorous search, while gathering the sweet nectar; they must be docile to allow the apiarist to manipulate them with ease and pleasure; they must be strong and hardy, to withstand the rapid changes in climate; and must be of singular beauty, to attract the admiration of the fancier of fine stock.

"The bee of the future" will be present at the very moment when the slumbering flower, under the penetrating dew, awakes to consciousness, and unfolds its buds to take in the first rays of the morning sun. The *ideal* bee will dip into that tiny fountain, which distills the honey drop by drop, and bear off its honeyed treasure to its waxen cells of virgin comb.

Much has been written and spoken about queens duplicating themselves—but what we want is *progression*, not duplication! We want to breed up—good, better, best—not simply to hold what we have, but to improve the race. Mr. Langstroth struck the key-note when he said: "We want the best race of bees, or the best cross in the world." It is yet an open question as to what part will be taken by the Asiatic races in producing "the coming bee." A "cross" in this direction, and breeding in or out the distinctive features and propensities, may possibly, be "the next progressive step." But of one thing I am certain, however, "the bee of the future" will be the one that will gather the most honey, be the most prolific, and, at the same time, the most docile, hardy and industrious; and when produced, whatever may be its color or markings its name will be *Apis Americana*!

D. A. Jones, Ontario, moved a vote of thanks be tendered Mr. Newman for the able address. Carried unanimously.

Rev. L. Johnson, Kentucky, would like the question fully discussed as to the superiority of bees. Since he became enthused in the occupation of bee-keeping, he has been unable to pass a hive of bees without observing all the characteristics connected with it. He thought the Italian bee a great advance on the old-time black bee, and doubted not they were capable of still greater improvement. He thought all would

admit the greater prolificness of hybrid queens. The past season he had one which produced at least a bushel of bees, and that colony had given fully 200 lbs. of honey. What we want is the race of bees which will bring the most money.

Mr. Newman was certain Mr. Johnson and himself agreed upon the general results to be attained. First, we want the bee which will obtain the most honey—and the most honey brings the most money; then the other traits as he had enumerated them.

Mr. Harrington, Ohio, has tried several strains of bees: First, Italians; second, albinos; third, a cross between Italians and albinos. The claim that the dark or leather-colored Italians are the best honey-gatherers is all bosh. He finds the larger Italians are the best honey-gatherers, regardless of color. He has a holy queen that is very prolific, and her bees gave the best yield of honey he has received this season. This queen was received late in the season, placed in a small nucleus, and had built up to the strongest colony he owned.

O. O. Poppleton, Iowa, I have experienced that the lighter bees are far ahead in all the desirable qualities. I invariably get a good return from the yellow bees, when perhaps the dark ones are in a destitute condition. When the yellow bees have no surplus, it is useless to look any further.

Mr. Muth, Ohio, had removed nine Egyptian queens in one day to give place to yellow Italians. The Egyptians were in a starving condition while his light Italians were filling the surplus boxes nicely; besides, the Egyptians were so cross that there was no pleasure in working them. In fact, they seemed almost intractable, even with the plentiful application of smoke.

Dr. J. P. H. Brown, Georgia, thinks the idea prevalent with some apiarists, that the dark Italians are the best workers, is a mistaken one. He thinks the amiable, light-colored bee just as good a worker as the darker colored.

Mr. Harrington, Ohio, inquired why the grand-daughters of imported queens are always lighter than those imported.

Rev. Mr. Johnson, Kentucky, thought it was undoubtedly owing to climatic change; the same effects were true of horses, cattle, and even the human family in point of superiority.

C. C. Coffinberry, Illinois, attributed much of the superiority of the American-Italian bee to a loose practice prevailing in the selection of queens for shipment to this country. In filling an order, most of the Italian queen-breeders paid but little attention to the selection of the best; with them it was

enough to know that a queen was fertilized and laying, to fill the requirements of an order, and he ventured the assertion that not more than one queen in a score was fit to breed queens for the market. With the American queen-breeders, who had any regard for reputation, the best are always selected for propagation, and the fact of the importation does not constitute it the best. By a careful selection from the very best of those imported, and a subsequent breeding with a special view always to perpetuate the best, we have now reached a point far in advance of the apiarists in Italy.

S. D. Riegel, Ohio.—The last speaker has expressed it exactly. Purchasers wanting the best queens and bees always select from the American improved stock, instead of the imported or that bred directly from the imported.

Dr. Brown, Georgia, acquiesced in the above opinions.

Mr. Harrington, Ohio, said he had never seen an imported queen that did not produce three-banded Italians, although some were very dark.

Mr. Coffinberry had seen several which did not.

A. G. Hill, Indiana, had seen at least two imported queens that produced hybrids.

Mr. Newman has noticed bees in Italy as black as any in this country.

Mr. Jones said he had seen black bees at several places in Italy, even in the vicinity of Rome. He gave, as his opinion, that the Italian bees were descended from the bees of Holy land, or those on the Island of Cyprus.

The following communication was read, as bearing upon the subject under discussion :

The Yellow Race of Bees.

The advertisements and other writings of the breeders and dealers in queens and bees, as published in the bee papers, if taken literally, would lead one to believe that the name "Italian" is synonymous with the yellow race of bees. To inquire into the truth or falsity of this assumption on the part of interested parties, is the purpose of this short article. It is but repeating what every well-informed person knows, when I say that with the honey bee, as with the ants and some other insects, there is the yellow or light-colored race, and the black or dark-colored race; and these races when isolated ought to be, and are as distinct, one from the other, as the yellow and black ants are. But if they are so situated (being of the same species) that the yellow queens may meet the black drones, and vice versa, the result will be "graded stock," or what is commonly called in bee parlance hybridization.

Now I assert without fear of successful contradiction, that the yellow race of bees



is not peculiar to Italy; they are found in the Island of Cyprus, Palestine, Syria, and doubtless in other parts of the earth; hence the name "Italian" is not synonymous with the yellow race of bees. If further proof was necessary to establish this proposition, it is found in the fact that the breeders and dealers in queens have bought and sold "golden" Italians, "dark" Italians, "leather-colored" Italians, and all the shades of the rainbow under the spacious name "Italian." I am of the opinion that not more than 25 per cent. of all the queens imported from Italy fairly represent the pure yellow race of bees. I have seen at least one imported queen from Italy, that produced the most common hybrids. I now have queens in my apiary from six imported queens, and the variations are as palpable as that seen in "graded" stock.

Dr. Willich, in his "Domestic Encyclopaedia or Dictionary of facts," re-published in this country nearly 80 years ago, in his chapter on the honey bee speaks of Milan, Italy, and other places, and says "of the several kinds of working bees" that "those which are small, oblong, smooth, bright or shining, and of a gentle disposition" were preferred by the ancients; "that the superior utility of this species has been established by experience." That this author in the words "bright or shining and of a gentle disposition" intends to refer to the yellow race of bees, so highly prized at the present day, I have no doubt. And when he speaks of the "several kinds of working bees" he proves all that I have said, viz: That the imported stock from Italy as a general thing do not fairly represent the "bright" or yellow race of bees, because of their contact in the past with other races of bees. It matters not, though the bright or yellow race of bees in Italy have survived and absorbed (because of their "superior utility") all other races of bees in that country; they must necessarily have retained some of their blood, peculiar traits, &c., which is continually cropping out in the process of breeding.

Hence we have bees from the same imported queens which fairly represent the pure yellow race in color and disposition; and bees called "dark" Italians, and "leather-colored" Italians, full of vindictiveness, always ready for a fight. These fairly represent the dark, or black race of bees both in color and disposition. There is a curious fact connected with the amalgamation of blood, well understood by stock breeders, and that is, there is always a tendency to run downwards; or, in other words, the blood of the inferior parent always prevails in the long run, because their progeny is invigorated by the superior blood of the superior parent, while nothing is given in return.

We have a striking example of this accepted proposition in the offspring of the queens imported from Italy. So prone have they been to breed after the taint of blood in their composition, that breeders and dealers have been compelled to do all in their power to popularize the so-called "dark Italians" or give up the business of queen-rearing at present prices. No one of them, however, has claimed that the so-

called "leather-colored" Italians are a distinct race, separate and apart from the yellow and black varieties, which are acknowledged by all to be distinct and fixed races of bees. The so-called "dark" Italians, therefore, is either a distinct race or type of bees, or they are hybrids, there is no escape from this conclusion. G. W. DEMAREE.

Christiansburg, Ky.

Mr. Boardman moved, as a test of the sentiment of the Convention,

Resolved, That the importation of Italian queens is no longer advisable as an improvement of our present race of bees.

A. I. Root, Ohio, has labored under the impression that there were no black bees in Italy. He is now satisfied they do exist there, since Mr. Jones says he has seen them. Mr. Root thinks, however, the manner of applying tests, and the points of excellence bred for, has had much to do in improving the race, and in deciding their purity.

W. Williamson, Kentucky, hoped the resolution would not prevail. Since 1861 we have been improving.

Capt. W. F. Williams, Ohio, moved to lay the resolution on the table. Motion prevailed.

D. A. Jones, Ontario, stated he had been unable to perfect his paper on the "peculiarities and advantages of Cyprian bees," however, he would tell them something of what he had seen and encountered in his European trip. He stated that the people of Cyprus were a superstitious people and he had experienced much trouble in his dealings with them, owing to their prejudices against foreigners. From Cyprus he had gone to Jerusalem, and had obtained many queens and bees in the holy land, but had experienced much difficulty in getting them over the mountains and to the sea-coast, as the bees in that far-off land were mostly kept in hives made of unbaked clay, and cylindrical in shape. After a swarm of bees was put in one of them, the end was closed with an earthen plate or disc which fitted in, and the cracks were then closed with mud, which made them quite tight. These were then packed on the tops of each other, in pyramidal form, with sometimes several hundred in a single pile, and the entrances all opening one way. In this manner the top layers kept the lower ones cool, and although the heat was often as high as 112° to 115°, he had never heard of a case of melting down of the combs. When honey is wanted, the disc or plate is removed from the end, some smoke blown in to drive the bees forward, then with a long knife the combs are cut out, the plate filled in again, and the bees left to repair the

damage and fill up with comb and honey again. Mr. Jones bore strong testimony to the prolificness of the holy and Cyprus queens, and thought they would prove valuable addition to our present fine race of Italian queens.

Adjourned till 9 a.m. to-morrow.

SECOND DAY—MORNING SESSION.

The Convention was called to order by President Newman.

The report of the Committee on Nominations being called for, Mr. Williamson, the chairman, asked for further time, as all the committee were not present. On motion, further time was granted.

The Secretary read the following communication :

To the President—Dear Sir :

I have been troubled with "Foul Brood" and have succeeded in eradicating it so well that at present there is not a particle in my apiary. When I discover it in a colony, I immediately take all their combs from them except one or two empty ones that contain no brood; I first extract the combs, then cut them out of the frames and immediately melt them up into wax; I boil or bake the frames for a few minutes and use them again, instead of new ones, as they are then free from infection. In two or three days I shake the bees off of the remaining combs, in a new clean hive, and give them nothing but foundation to begin with. To purify the old hive, I first burn about two ounces of sulphur in the hive; then scrape the hive well with a square-ended knife, removing all propolis and wax, then scald thoroughly with brine. This, I find, makes the hive all right. By this course I only lose the combs and save the hives, frames, wax and bees.

I have an improvement in frames to present to the fraternity which I believe they will appreciate, as I have found it to be quite valuable, and have never known of its having been used except where introduced by myself. I therefore claim it as my own invention : Did you ever take hold of a heavy frame by the top-bar and give it a downward jerk to remove the bees, and have the top-bar, come off? If you have, then you know how provoking it is, and inconvenient to remedy at the time. I have no further trouble now in that line and will now describe my invention. In nailing up a frame I use but one nail at each end of the top-bar, to secure the side bars in place, and then take a strip of tin about 5 inches long by $\frac{1}{4}$ inch wide and punch a small hole near each end. This piece of tin is first to be nailed to the side-bar about 2 inches from the top, with a small brad, then bent across the top-bar, down the other side, and nailed to the side-bar. This strip will bear great weight. The other end of the frame is finished in the same manner. I use the refuse strips of tin from the tinsmiths, and the expense is quite trifling.

Chattanooga, Tenn. S. C. DODGE.

The Secretary read the following letter from Prof. J. Hasbrouck :

President Newman:

I am sorry that I shall be obliged to disappoint you and the Convention—if it will be any disappointment—in not furnishing my "fine comb glucose honey" as per agreement. I am not able to do this on account of the very abundant and uninterrupted flow of honey in this locality ever since I promised the article and even from the 10th of July. During this time it would have been impossible to get bees to take the vile stuff, even if mixed in only small proportions with honey, I had hoped that there would have been a slight "rest" between toad flax (*linaria vulgaris*) and the fall asters; but the country is yet yellow with the flower, while the latter is yielding honey in a flood almost. Hoping that toad flax may extend around to all the brotherhood, so that none of them may have time to dream of bonanzas in any kind of "fed honey," and wishing for you all a very profitable and agreeable meeting. J. HASBROUCK.

Bound Brook, N. J., Sept. 26, 1880.

In consequence of the non-reception of several papers, and as several desired to return to their homes this evening, Mr. Williamson offered the following resolution :

Resolved, That the Convention complete its labors to-day, so that its adjournment this evening may be final.

On motion, the consideration of the resolution was postponed till the afternoon session.

Dr. J. P. H. Brown, Georgia, addressed the Convention on

Queens :

Their Fertilization and Peculiarities.

The subject I have chosen for the consideration of your Society is : "Queens—their fertilization and peculiarities." While this, no doubt, may seem hackneyed and threadbare to many present, it is, after all, the pivotal point around which the whole science of apiculture revolves.

During the past 25 years what desperate efforts have been made, and what money has been expended, in order to procure queen-bees that would produce worker progeny possessing more desirable qualities than those with which we were already acquainted! To get something better nearly every known country has been ransacked : even Palestine and the historic Isle of Cyprus have been made to contribute their quota.

The ideal queen-bee of to-day is an entirely different personage from her royal highness of 30 years ago. Then,

"First of the throng and foremost of the whole,
She stands confess the sovereign and the soul."

Now, while she may still be regarded as the soul of the colony, she stands divested of her royal robes, and is in a great measure the creature of the apiarist. The cry is for queens that will produce progeny having the very essence of all the good qualities and virtues of beehood. They must be industrious, good honey gatherers, long of tongue, strong of wing, peaceable, gentle to handle, must never sting their keeper, must



never rob their neighbors nor suffer themselves to be robbed; and, in connection with all these attributes, they must possess the quality of beauty. I have no doubt there are bee-keepers who would desire a much longer array of virtues than those I have enumerated.

Whether it is possible to center and focalize all these physical qualities, and psychological characteristics into the individuality of a queen-bee, I consider rather questionable. It is quite likely that the degree of attainment in matters of this kind is limited. We find such to be the case in breeding stock and poultry, and in pomology. Nature seems to have set a limit to this improvement—when we arrive at that point, there is a physical degeneracy with a rapid tendency to revert back to the original type.

For the last 10 years I have made the breeding of Italian queens a specialty, and during this time I have spent days of observation and thought in studying every phase of the subject in order to reduce it to a demonstrated theorem. My experience and observations can be summed up in the following propositions:

It is possible to maintain a standard of vigor, and achieve a great degree of improvement in our queens with especial reference to desirable qualities in their worker progeny. In considering this proposition the essential points to be observed are,

1. Our breeding stock must be pure, vigorous and prolific. Pure stock is of the first importance if we wish to breed with an eye to improvement.

2. The worker progeny of our breeding mothers must possess those qualities that we most desire to transmit and perpetuate.

3. All the conditions necessary for the production and development of a healthy and vigorous queen must be compiled with. Before I speak of these conditions I shall refer to the fecundated egg and to its appearance at the time of the birth of the larvae. We often hear talk of rearing queens from the egg—that is, the egg is selected and bathed in the queen-developing food even before it is hatched. Such queens, it is argued, are better than those reared from the larvae. This notion, like thousands of others owes its existence more to a repetition of old theories than it does to well-observed and demonstrated facts.

I believe it is admitted by all scientific apiarists that there are no eggs *per se* laid especially for the production of queens, and another sort of eggs laid to hatch workers. It has been most conclusively determined, that an egg that would, under ordinary circumstances, develop into a worker bee, would when developed in a royal-cell and fed with royal jelly, come forth as a queen or mother bee. The ovum, then, that would hatch a queen is not different from that which would hatch a worker. It is the same. It has all the characteristics of a perfect egg—the vitalized germ, the yolk, the albumen, the chorion or shell, thus constituting the “initial” insect.

Nature has amply and most bountifully provided and stored within the delicate egg-shell and membranes sufficient food for the support of the embryo during its abode in its egg-home.

From a long series of observations that I have conducted with a view to determine if any prepared food is ever deposited in the cell before the hatching of the egg, I am satisfied there is no such food placed there until after the larva has emerged from the egg. As soon as this takes place, the nurse-bees quickly deposit a milky looking food within reach of the little grub. In fact, this food is often placed there before the exuviated shell is removed from the cell, which at times makes it appear as though the egg was still there and bathed in the larvæ-pabulum.

It may be laid down as a well established maxim that the younger the larva, other conditions being the same, the better the queen. If possible the larva should not be over one day old. To know the exact age, requires experience and a system of close observation has to be kept up. The colony containing the breeding queen must be kept in a thrifty condition. The cards of combs intended for the reception of the eggs should be new and clean. The time of its insertion into the hive, and the time of egg-deposit, must all be noted. An egg will hatch on an average in three days—sooner if the weather should be very warm, and longer if it should be cool. When examining the frame it should be taken to a strong light, otherwise the newly hatched grub cannot be seen. At first when it appears outside of the shell it is a tiny elongated mite, but its nurses soon literally bathe it in food. When the larva is three days old it is very rare that a good queen can be reared at all.

4. Next in importance to newly hatched larvæ is a sufficient quantity of bees of a suitable age to supply the magical food that is capable of transforming the grub into a bee anatomically and physiologically different from all other bees in the hive, and capable of becoming the mother of a whole colony.

We know royal jelly is elaborated by the workers, but how it is compounded we do not know; still, we do know that without honey and pollen no queen-cells can be built. An abundant supply of pollen is of the greatest importance; for even with plenty of honey and a scarcity of pollen, the cells will be only abortive attempts. The number of bees must be sufficiently large to keep up the temperature of the hive and to perform the ordinary duties, besides preparing the requisite food. Less than two quarts of bees I should consider a weak queen-rearing colony. The bulk should be young bees, or such that never did duty in the fields. The cells must be subjected to a rigid system of pruning—the large and perfect only retained, and the small and puny-looking ones rejected. When a cell is hatched in an incubator or in a nursery cage and the queen is kept confined for a few days and thus deprived of the freedom and invigorating influences of the hive, she becomes thereby impaired to a certain degree, in physical power, and also in color. Hence, such contraptions are not to be recommended, and should only be used in cases of dire necessity.

We have now, in a general way referred to the most prominent conditions whereby we can improve the standard of our queens

so far as physical development is concerned. Our queen is now supposed to have arrived at that age when her organs of generation commence to develop, and when she becomes infused with that sexual impulse that prompts her to leave her hive to seek a union with the male. Without this union, her laying capacity will be limited to comparatively a few eggs that will be unimpregnated and will hatch only drones. By the way, I will here take occasion to remark, that while the Rev. Dr. Dzierzon has received the credit, however justly, of publishing to the world the anomaly of the development of uninpregnated eggs under the theory of parthenogenesis, Huber undoubtedly had the honor of making the discovery that virgin queens very often laid eggs and that all such eggs produced only drones.

The influence of the male in stamping the character of the worker and queen progeny is much greater than the majority of bee-keepers suppose. While the drone progeny of virgin queens, and even that of a fertile worker, possess perfect genital organs and are capable of fertilizing the queen, as we have well authenticated cases to prove, still I would recommend that the greatest care be taken to select large, well developed drones from the best colonies that are noted for purity and industry. If the colony chosen has other desirable qualities, so much the better. Drones from objectionable colonies can partly be held in check by the removal of all drone comb, but they can effectually be prevented from issuing by the application of a drone trap.

Eight or ten years ago there was much interest taken by the propagators of Italian queens to devise some plan by which they could be fertilized in confinement. Hundreds of experiments were tried, with all sorts of traps, boxes, and tents, and all proved failures except in a few cases. I fear even some of these reported successes have been accomplished by allowing sanguine hope and imagination to get the better of correct observation. Recently a series of fresh experiments have been conducted with some accredited success. I would not have you understand that I think fertilization in confinement impossible. I have had a wonderful case to occur in my own apiary a few years ago, of a fine Italian queen, with partial wings, becoming fertilized within the hive. While never a prolific queen, she laid worker and some drone eggs, and kept up her colony for some time.

Fertilization on the wing in the air seems to be the plan that nature signaled out for the male and female of the honey bee. The structure of the drone genitals in conjunction with the formation of the contiguous parts of his abdomen favors this opinion. Prof. Leuckart, an entomological anatomist of celebrity, when speaking of this subject observes: "The more completely the abdomen is filled and distended, the more readily and perfectly will the sexual apparatus be thrown forth. Now, among the internal organs of the drone, there are some which can become inflated only under certain conditions. Such are the tracheæ, which permeate the body as ramified tubes with occasional enlargements or sacs of

variable dimensions. The most of these, while in a state of repose, are collapsed and nearly empty; but they become somewhat charged with air while the insect is preparing to fly, and are only fully inflated when it is on the wing. The inflation of these tracheal tubes, presupposing the simultaneous closing of the spiracles, must very considerably increase the pressure exerted on the side-walls of the abdomen and this enables us to perceive the reason for the remarkable fact that copulation is effected exclusively while the parties are flying. In a state of comparative repose, when the tracheal vessels are collapsed, the amount of pressure which the drone could exert on the contents of the abdomen would not suffice to effect that perfect inversion of the copulating organs which is indispensable to liberate the spermatophore and introduce it in the vaginal sheath of the queen."

It is to be hoped that experiments will still be conducted, to effect some more successful plan than any yet devised, of fertilization in confinement. In order to make any plan successful, it must comply with all the natural conditions demanded in the case.

Among the peculiarities of queens I may mention virgin queens laying before copulation. A case of this kind occurs now and then, but rarely. Queens may go out a number of times to meet the drone. This is often the case at those seasons when drones are scarce. She may keep going out till impregnation is effected. After this is accomplished, I do not think she ever leaves the hive except to accompany a swarm. The only certain test to tell if copulation has taken place during her flight, is by the portion of the drone's genitalia adhering to the queen.

After a queen is once fertilized, does she ever leave her hive for a second fertilization? I have often heard of reports, and had cases under my own observation, that leaned strongly toward the affirmative side of the question; yet I think that all such circumstantial evidence can be satisfactorily explained without militating in the least against the one-impregnation theory.

As there are many freaks and anomalies connected with queen-bees it would be useless for me to make any attempt at enumeration. But by a careful study of such cases as they arise in our own apiaries, we may gather ideas and facts that may be of vast benefit to us in future observations.

Augusta, Ga. J. P. H. Brown.

P. W. McFatridge, Indiana, said he had experimented by placing larvae in dry, partially built cells, and the bees would feed them and rear queens, but they were invariably killed before fertilization.

Dr. Stevens, Indiana, inquired if the queens thus reared were in any wise different in appearance from those reared in the natural way?

Mr. McFatridge.—No; I found them apparently as well developed, and could observe no difference.

A. G. Hill, Indiana, took exceptions



to Dr. Brown's theory of the age of the larvae. It was an admitted fact that the first queens hatched were always the best developed and most prolific, and consequently the larvae, if produced queens first, would be preferable. He thought the age of the larvae made but little difference, whether one or three days old.

A. Benedict, Ohio, prefers the queens which emerge from the cells first. He thought them better developed, more prolific, and of longer life.

Dr. Brown, Georgia.—My experience has been that the bees select the best, and concentrate in greater numbers on those, and, as a consequence, they hatch first and produce the best queens.

Mr. Benedict gave his process of queen-rearing, which consists in giving 1 frame of larvae and brood in all stages, then concentrates a heavy force of bees upon it. He thinks larvae one or two days old is the best.

S. F. Newman, Ohio, has a neighbor who practiced the grafting process quite successfully last season; but the colonies reared from those queens were all inferior.

J. Scholl, Indiana, could, from his own experience, fully sustain Dr. J. P. H. Brown's process of rearing queens from the youngest larvae.

S. F. Newman stated that nearly all the queens he had reared by the grafting process, had been superseded within a year.

Rev. L. Johnson, Kentucky, thought a larva fed with royal jelly from its first emergence from the egg must be best. It is an admitted fact, that the best queens are reared in swarming season, and perhaps at that period the requisite food for rearing good queens is most abundant. If fed with larvae and eggs partially digested, as claimed by some writers, then it is necessary that brood in all stages should be given the bees with which to rear the queen. He would not keep a queen in his apiary which has gone longer than eight days before meeting a drone.

Dr. E. Parmly, New York, said it was possible to give a colony of bees a single egg, from which they would rear a perfect queen. In fact, if robbed of a queen in mid-winter, they will rear a queen.

Capt. W. F. Williams, Ohio, has devoted much time to queen rearing, and endeavors to follow nature in his methods. He prefers giving eggs from which to rear queens, but wants his bees and hive in a normal condition. He has devoted much of his time in trying to develop a better race of bees, and has met with encouraging success. He had offered a challenge, to forfeit a colony

of his best bees to any person who could produce a colony of bees with longer tongues than some he had reared, and no one had yet claimed the forfeit. At a recent meeting of the Northwestern Ohio Bee-keepers' Association, he exhibited bees which reached syrup a distance of eleven thirty-seconds of an inch, through fine wire cloth. He is still breeding with a view to attaining greater perfection in the length of bees' tongues.

The Secretary read a communication from J. E. Moore, Byron, N. Y., accompanied with some samples of paper-body comb foundation, paper separators, and honey in Moore's Perfection honey box. The paper for separators and comb foundation is coated with shellac to harden the texture so bees cannot gnaw and destroy it. He says he has tested it thoroughly this season, and as not one of them has been injured by the bees, he will hereafter use paper in preference to tin, as it is not only cheaper, but makes a warmer box for bees to cluster in than if no separator is used. The comb foundation is made on lighter paper, prepared in the same manner, which is dipped in melted wax and then passed through the rolls. He thinks it an improvement on wood as a partition wall in making foundation. He reported about half a crop of honey, the shortage being the result of a partial failure of white clover and the destruction of red clover by the clover maggot.

The Secretary read the following letter of inquiry:

Lansingville, N. Y., Sept. 3, 1880.
 1. Do you consider the thin flat-bottom comb foundation, 10 feet to the pound, a success to use in comb honey?
 2. How many feet to the pound is in the lightest Dunham foundation for boxes?
 3. What kind of foundation do you prefer for boxes, and also, what shaped starters do you put in, or do you fill the box nearly full?

Very little is said about what kind of foundation is best for the surplus boxes, also, the best shape to put it in the boxes. I wish these questions brought up before the National Convention.

D. W. FLETCHER.

The following paper, as pertinent to the above questions, was then read:

Comb Foundation:

Its uses, and the Best for all Purposes.

It may not be out of place to introduce my subject with a reference to Mr. Frederick Weiss, the first in America to conceive and manufacture a foundation machine, and with whom your writer has spent many instructive and interesting hours. The occasion of my last interview with him was during the earlier part of this season, when "old Fred." obtained permission from the

Superintendent of the Cook County (Illinois) Poorhouse, to visit the city and obtain some reading matter, with which to relieve his long, monotonous hours. Old and feeble—his mind, fast passing into dotage, reverts back to its struggles with the first machine, to release the waxen sheets from the rollers; next, to his overcoming the difficulty with soapsuds; then wanders in clouded dreams to his two boys whom last he saw and parted from in the fatherland; then come his beautiful, airy castles built in the future, all of which he expects to realize when he recovers from his rheumatism, and regains his robust strength of fifty years ago. Poor "old Fred!" how forcibly did he bring to mind the lines in the school-books of years ago:

"Pity the sorrows of a poor old man,
Whose trembling limbs have borne him to your
door;
Whose days are dwindled to the shortest span—
Give relief, and heaven will bless your store."

Although soon to pass to obscurity, and the records of his genius blotted out "unhonored and unsung," his invention will receive the praise of being one of the greatest of the age.

It would be tedious to review all the various styles of foundation presented to bee-keepers since "John Long" first introduced "old Fred's" product to the public, and the claims of the many machines now upon the market for its manufacture. We have had foundation with triangular shaped cells, with flat-bottomed cells, with high side-walls and with no walls at all; with linen, cotton, wood, paper, tin-foil and woven-wire for a base; while latterly we have had flat-bottomed foundation, with fine wires imbedded therein, and frames of foundation with wires pressed therein. But one by one these are passing away. Experience is demonstrating that a medium heavy sheet—say, 4½ to 5 feet per lb., with a thin base or septum, and heavy prominent side-walls or lines, is the most desirable for economy in the use of wax, and rapidity in comb-building by the bees; and whether it be distinguished by the name of Dunham, or Given, or Bourgmeyster, or Ferris—or call it what you will—the above characteristics will be predominant in the foundation of the future. My experience has been that such is less liable to sag in the hive, the bees will accept it much more readily, and, unless honey be coming in very rapidly, every particle of the wax will be utilized. It is not unusual for such foundation to be built out sufficiently for storing and the queen's use in 12 hours, in colonies in a normal condition; while one writer claims (and I do not doubt him) that 10 hours is sufficient time with him for prime swarms to build out sets of combs.

For some purposes, it is possible wires may be desirable, but I have never had occasion to use them, except by way of experiment, and cannot now imagine why I should want them, whether they be imbedded and dipped with the sheets, or pressed in by a machine.

I am not persuaded as to the desirableness of full sheets of foundation in the surplus boxes. I have frequently tried flat-bottomed thin, but never with the most gratifying results, and I am long since convinced there

is but little gained by its use—certainly not enough to compensate for its cost and trouble. Perhaps the style commonly called Dunham, if made thin enough—say, 8 to 10 feet to the pound—would be more desirable. But even this I should not use, could I afterward detect the boxes in which it was employed.

I am convinced from numerous experiments the past season, that the brightest, yellowest, purest, freshest foundation is much the cheapest. It is possible for good, unburned wax to be dark or brown, but it is hardly possible for burned, or mixed, or impure wax to be a bright yellow; therefore, if for no other reason than a guarantee of its purity, I would select the latter. It is certainly a fallacy to suppose that very dark foundation is less liable to sag in the brood-chamber, and this erroneous impression can only be accounted for by the fact that the bees are less liable to crowd upon it in such immense numbers; or that the darker wax is cheaper in price, and hence "the wish is father to the thought."

In choosing wax to manufacture, always select the brightest, cleanest and purest—it will be cheaper and give better satisfaction, even though you pay 1@2c per lb. more for it.

In ordering foundation for the brood-chamber, specify what you want. First, state what frame you use, giving the size; second, that you want foundation with a thin base, and the bulk of the wax in the side-walls; third, that you want it to run not less than 4½ nor more than 5 feet to the pound. If for use in surplus boxes, full size, or nearly so, all the above conditions should be observed, except in weight, which should run about 8 feet per pound. Judging from my past experience, I would not advise the purchase of any foundation with a flat base, depending upon the bees to work it into proper shape; sometimes they will do so, but more frequently they will not.

In conclusion, while ready to endorse all that has been said by manufacturers and dealers of the desirableness and utility of good foundation, I am half persuaded that perfection has not yet been reached in the machines employed in its manufacture. Undoubtedly, many of the best machines on the market are sold at as small a margin of profit as their manufacturers can afford them; yet, whether the machine costs \$50 or only \$5; if it cannot be run to make up the wax into good foundation at a less expense than 15 to 25c. per pound, it is a practical failure. Many of the most prominent and successful apiarists are loth to advise the purchase of foundation freely because of its cost; but reduce the price, and thousands will use it who now cannot afford to; yes, thousands of bee-keepers will melt up all surplus combs at the end of each season, rather than trouble to make them moth-proof, and buy or exchange the wax for foundation when wanted!

I have an abiding faith in the genius of the American bee-keeper, and believe that his ingenuity will yet perfect and bring out, in the near future, a foundation machine which will make good foundation so rapidly and cheaply as to entirely supersede the use of old combs and comb-starters.

Chicago, Ill. C. C. COFFINBERRY.



S. T. Pettit, Ontario, said he has no trouble keeping the combs free from moths. He places them in close, tight hives, piled above each other, with a newspaper placed between to keep all close. By this method they are never troubled with moths.

H. R. Boardman, Ohio, thought comb foundation was a very important subject. Last season he had about 600 combs built out from foundation, and there was neither warping nor sagging observable. He used no wires, but, instead, a cross-piece from end to end of the frame, then put in the foundation in two strips; this method virtually makes two combs in each frame; the bottom of the upper comb leaving passage-ways over the cross-piece to each side of the comb. He uses the best yellow wax.

D. A. Jones, Ontario, recommended foundation running $4\frac{1}{2}$ to 5 feet per lb. He uses a Dunham machine, is well satisfied with it, and thinks there is none better.

C. H. Deane, Kentucky, has had no trouble preserving old combs, and for use in extracting thinks they are preferable to new combs built from foundation, as they are not so liable to injury in handling. He could indorse all that had been said in favor of the Dunham foundation and machine.

Mr. Boardman thought $4\frac{1}{2}$ to 5 feet per pound the most economical weight for use in the brood chamber.

The following was then read on

Permanence of Bee-Keeping Industry.

All great achievements, whether in science or art, if traced back in their history, will be found to have sprung from small beginnings, and the perfected article is usually the results of the contributions of many minds. The wine and silk interests of this country are familiar examples.

In considering the stability of any industry it seems proper to give a brief outline of its rise, progress, present status, and its claims on the community for perpetuity. It is within the easy recollection of most of us here assembled, when boxes and log gums were the only homes provided for the industrious little bee and each year, as cold weather approached, a sufficiently number paid the penalty for their industry with their lives in order to provide their keepers' table till the next year should bring fresh supply. There were very few consumers of honey outside of its producers—and indeed the product of the hive being usually a conglomeration of bee-bread, brood and cocoons, mixed up with many varieties of honey, was not very tempting to sensitive palates. The little which was secured in fair order had to be sold at such prices that it was regarded as a luxury to be indulged in only by the rich, or by the apothecary for medicinal purposes.

With the rude appliances then in use, no

progress was made nor was it possible, and he who should at that time have proposed bee-keeping as a means of gaining a livelihood for himself and family, would justly have been regarded as a first-class subject for a lunatic asylum. As for a *system of bee-keeping*, there was none, but each followed his own inclination, deriving his notions of management from the accumulated verbiage of tradition.

Superstitions the most foolish were held, and practices the most unreasonable prevailed. Hardly a fact relating to the natural history, anatomy and physiology of the bee had been correctly stated. Some regarded the drones as females and the mothers of all the rest, while others regarded them as water carriers, and still others as a kind of police to defend the stores through the working season. The workers were regarded by some as males—others as females—others without sex, and still others as about equally divided in this regard. There was substantial agreement in but one thing, viz.: that there was one king who ruled the whole hive with absolute sway, directing all its movements, and without whose presence work would at once cease. The combs were supposed to be made from the gum of trees and perhaps mixed with the pollen of flowers. The same absurd notions, with a few honorable exceptions, were embraced in all that related to this subject. Such assumed premises, as a correct theory carried into practice would necessarily produce just such results as we have enumerated.

This state of things, although in the near past, may be well denominated the "Dark Ages" of bee-culture in America, but as all dark nights have their mornings, so in this case, a bright sun at length loomed above the horizon in the person of Rev. L. L. Langstroth, proclaiming that the night of superstition had ended and the morning of improvement had dawned. The hive and the book which he brought out at this early day contained a correct basis for all future improvements, and in connection with other eminent services to the cause of bee-culture, have rendered his name dear to every lover of the honey bee, and will be held in sweet remembrance long after he shall be gathered to his fathers. Yes, they will form a monument more enduring than the marble which will mark his last resting place.

The foundation once laid, enterprising and progressive minds were not slow in building thereon. Rock has been laid upon rock and stone added to stone until the structure has assumed enormous proportions and with no adverse influences, the "cap stone" will ere long be brought with shouting of "grace, grace unto it." The past thirty years have added more valuable information in regard to a correct practice based on the true theory of bee-keeping, and have added a greater number of useful implements than 5,000 years which preceded this period.

The advent of the movable frame hive in America marks the beginning of this wonderful era. The honey extractor soon following, swelled the tide immensely. The invention and successful use of comb foun-

dation in its many forms completed the "trinity" of inventions out of which has sprung all the other useful appliances and practices which, taken together, constitute bee-keeping the pleasant and profitable pursuit it is to-day. Under the influence of the new system, botanists have ransacked the entire floral kingdom and have given us a catalogue of honey producing plants, of such varying habits, that the wise apiarist may fill up all the gaps occurring between the regular periods of bloom of the plants usually depended upon for honey, and thus secure a constant flow of nectar during the entire season. By many experiments made by competent bee-keepers under every variety of climate and circumstance, the wintering problem is so far solved that the progressive apiarist expects to see his bees come forth bright and lively in the spring, with the same confidence that he does his other farm stock.

To secure to our bees the benefits arising from the commingling of the blood of different races no pains have been spared, and no expense or toil has been deemed too great; and the magnificent result is, that all the qualities which go to make up the perfect honey bee, such as vigor, endurance, long tongues, swiftness of flight and sweetness of temper, America to-day stands without a rival. The abundance of the floral supply and quality of the various varieties of American honey also excel that produced in any other portion of the known world; so that wherever it has been introduced, whether in our own or foreign lands, it has never failed to create a demand for more; and, although the quantity produced is now reckoned by barrels, tons, and car loads, exceeding hundreds of times the quantity produced by our fathers, the prices obtained on an average are remunerative, and from causes already enumerated, will, doubtless continue to be. The fear of stings, natural stupidity, the lack of scientific education, together with the lack of that *peculiar* adaptation for the work, forming a kind of "protective tariff" for the honey produced in other respects, will always render his business free from the ruinous competition observable in nearly all the other industries of our country. With the vast accumulation of correct knowledge and appliances adapted to every need, the intelligent bee-keeper of to-day feels as certain of a fair return for his labor as though engaged in any other occupation.

Viewing them this industry from the standpoint of its growth on correct principles as distinguished from its former career when founded on absurdities, and taking into consideration the universal appetite and craving demand for its delicious products, we should at once conclude that it is destined to attain a vigorous old age; but there is another side to this question which it is well to consider as affecting our future markets for honey, and consequently the permanence of the industry itself. It is a well-known fact to those who read and are posted on the production of sugars and syrups that, with a few trifling exceptions, *all* the sugars produced during the past three years and now being produced, are adulterated on an average of 25 per cent. on

the whole amount, and the various syrups differing in quality, principally in name and amount of coloring material used, are adulterated still worse; that as a consequence all the refiners unwilling to engage in the nefarious business of slowly poisoning the public, and not being able to sell a pure article of sugar or syrup at the same price of this *vile*, though fine looking "stuff," left the business in disgust, and to-day the whole field is occupied by these counterfeiting scoundrels. Honey has thus far to a very large extent escaped their ravenous "maw," but as many of their victims, either through warnings in the newspapers, or the failing health of their families from the use of this "trash," have been casting about for a change and are rapidly substituting honey, these villains are becoming alarmed and are extending their field of operations to include this industry also. In a recent law suit among the members of the firm of the Buffalo Grape Co. for the recovery of \$450,000, the fact was brought out by the affidavit of one of the firm, that one bushel of corn produces thirty pounds of grape sugar, or a still greater quantity of glucose, and that the refuse of each bushel brings 8 cents for swine feed. Now, it must be apparent to every honey producer, that if his pure unadulterated article is to compete with honey mixed with this substance so that the mixture will contain from 50 to 75 per cent. of glucose (the usual proportions), his business as a bee-keeper will soon be closed out, and this new industry, with all its triumphs in the past and hopes for the future, will sink into oblivion. We do not make these statements to discourage bee-keepers, but to stir them up to a sense of their danger, while there is yet time to avert so great a calamity; but we cannot avert it by ignoring its existence. It, therefore, behoves bee-keepers everywhere to at once drop their silly questions of who shall or shall not deal in supplies; whether or not we shall destroy our present bee papers that we may establish on their ruins our Journal, &c., and with one grand co-operative purpose unite in solid phalanx to oppose the onward march of this giant enemy to our industry.

Let the National Association originate some trade mark and label to be adopted by all the minor associations in all the States.

Let producers pledge themselves to sell only to dealers who will become members of this association, and in turn pledge themselves in good faith to carry out all its requirements.

Let vigilant committees be appointed in all the different associations, whose duty it shall be to watch for and report all violations by the members, whether dealers or producers, of the association rules, and when convicted let it be known through all our mediums of communications with the public.

Let those who are qualified write frequently for the country papers, setting forth the extent of syrup adulterations, the danger to the community by their continued use, giving simple methods of detecting the poison such as the tea or alcohol test; also setting forth the merits, in all points, of pure honey as a substitute.



Let tracts on these subjects be published by the National Association, unaccompanied by any man's advertisements, for gratuitous distribution, and in the meantime petition our State legislatures for the enactment of laws for our protection, similar to our New Jersey law, under which Prof. Hasbrouck and our District Attorney are soon to commence suits against the most prominent adulterators of honey in Jersey City, and which will, doubtless, result in a glorious victory of this first application of our new law.

Let the bills presented to our Legislators be in the interests of HONEY ALONE, for if framed to cover other sweets, they will be sure to meet with defeat, on account of the immensity of the interests of the opposition and the amount of money they would willingly sacrifice in their defense.

In offering these plans to this Convention, we do not arrogate to ourselves any wisdom above our brethren, and shall gladly accept and work for any method by whomsoever proposed, which seems calculated to advance and protect the cause of bee-culture in the United States. A. J. KING.

New York.

President Newman remarked that it was exceedingly encouraging to witness the spirit in which Mr. King had written, and of his kind allusions to the Rev. L. L. Langstroth, whom some unwise enthusiasts are now trying to misrepresent and abuse. Mr. Newman said that he had not the pleasure of even a personal acquaintance with Mr. Langstroth, but revered him only for his noble work and devotion to the science and art of bee-culture. Mr. King's allusions to the necessity of adopting the newest and most perfect methods, as well as to keep abreast with the times in every department of apiculture, he regarded as the very key-note to success. The speaker very heartily endorsed the position taken by Mr. King, that "the living issues" of to-day demanded of us something else besides bickering and strife, begotten of envy and malice. In the great work before us, he was happy in the thought that generally we were alive to our duty and *united*. Himself, the editor of the *BEE JOURNAL* in Chicago, he had been gallantly supported on his right and left on the platform at this meeting by the editors of *Gleanings in Bee-Culture* and the *Bee-Keepers' Instructor*, the two Ohio bee papers. He had noticed in the auditorium the editor of the *Bee-Keepers' Guide*, of Indiana, who was taking a lively interest in the discussions, and the paper just read was from the editor of the *Bee-Keepers' Magazine*, of New York, and he noticed on the programme an essay from the editor of the *Bee-Keepers' Exchange*. These six editors are now all arranged in solid phalanx, ready for the fray, and will give the common enemy a fierce and de-

termined battle. This is not only flattering to the Society, but inspires all to look for a successful and triumphant issue. He congratulated the Society upon the self-evident union, peace and harmony now prevailing, and earnestly desired that it might be permanent. He felt happy that his term of office as President concluded under such auspicious circumstances.

Samuel Fish, Ohio, thought this Convention should take some action regarding legislation enactments to prevent the indiscriminate adulteration of honey now so largely practiced.

President Newman, in some elaborate and convincing remarks, endorsed Mr. Fish's views.

D. A. Jones, Ontario, explained that they had a law to punish adulterations in Canada. Not only was the party perpetrating the adulteration punished, but also all parties keeping the adulterated article on sale.

H. G. Burnett, Indiana, moved the appointment of a Committee to draft resolutions condemnatory of adulterations, and especially looking to the adulteration of honey. Carried unanimously.

The following committee was then appointed: Dr. J. P. H. Brown, Georgia; Dr. N. P. Allen, Kentucky; Chas. F. Muth, Ohio; Melville Hayes, Ohio; H. G. Burnett, Indiana.

Rev. L. Johnson, Kentucky, thought the permanence of bee-keeping depended much on the intelligence of the bee-keepers and the enlightening influence of the bee-papers and Conventions may accomplish all in this way. He thought bee-keeping an occupation as well adapted to females as to the sterner sex, and any woman of intelligence and nerve could run an apiary with profit and success, and in many instances could contribute more to the support of herself and family in that manner than in any other he could call to mind.

Mrs. L. Harrison, Illinois, being called up, said she found she could sell a pound of honey for just as high a price as any man could. Most avenues of employment were entirely closed to women, or, if they were given work in competition with men, it was always at reduced wages. She instanced a case where a woman dressed in male attire had obtained work in a tailor shop, thus to sustain herself and family, at regular wages, but when her sex was discovered she was obliged to don female attire and go to work at reduced wages. In keeping bees it was different; a woman's bees would get just as much and just as nice honey as those kept by a man, and



it would sell for quite as much money in the market.

W. Williamson, Kentucky, chairman of committee on nomination of officers, reported the following as the unanimous recommendation of the committee :

President—Dr. N. P. Allen, Smith's Grove, Ky.
Recording Sec.—Ehrick Parmy, New York.
Corresponding Sec.—C. F. Muth, Cincinnati, O.
Treasurer—F. A. Dunham, Depere, Wis.

STATE VICE PRESIDENTS.

Alabama—J. A. Austin, Huntsville.
Arkansas—Dr. W. W. Hippolyte, Devil's Bluff.
California—C. J. Fox, San Diego.
Colorado—J. L. Peabody, Denver.
Connecticut—H. L. Jeffrey, Woodbury.
Dakota—Calvin G. Shaw, Vermillion.
Florida—Dr. W. M. Keay, Iola.
Georgia—Dr. J. P. H. Brown, Augusta.
Illinois—E. J. Ostman, Dundee.
Indiana—Rev. M. Mahin, Huntington.
Iowa—E. D. Godfrey, Red Oak.
Kansas—D. P. Norton, Council Grove.
Kentucky—W. Williamson, Lexington.
Louisiana—Paul L. Viallon, Bayou Goula.
Maine—J. H. Spaulding, Augusta.
Maryland—J. M. Valentine, Double Pipe Creek.
Massachusetts—Dr. E. P. Abbe, New Bedford.
Michigan—Prof. A. J. Cook, Lansing.
Mississippi—Rev. J. W. McNeil, Crystal Springs.
Missouri—P. P. Collier, Benton City.
Nebraska—George M. Hawley, Lincoln.
New Hampshire—J. L. Hubbard, Walpole.
New Jersey—Prof. J. Hasbrouck, Bound Brook.
New York—A. J. King, New York.
North Carolina—T. B. Parker, Goldsboro.
Ohio—A. I. Root, Medina.
Ontario—D. A. Jones, Beeton.
Pennsylvania—W. J. Davis, Youngsville.
Quebec—Thomas Vallquet, St. Hilaire.
Tennessee—S. C. Dodge, Chattanooga.
Texas—F. F. Collins, Cuero.
Vermont—Jacob Ide, Passumpsic.
Virginia—J. W. Porter, Charlottesville.
West Virginia—E. W. Hale, Wirt C. H.
Wisconsin—Christopher Grimm, Jefferson.

On motion, the report was accepted and the committee discharged. There being no other nominations, on motion, the Secretary was requested to cast the vote of the Society for the above named nominees.

Dr. N. P. Allen, President elect, being invited to the chair, made some very felicitous remarks, thanking the Association for the honor conferred, and congratulating it upon its prosperous condition.

Mr. Williamson then offered the following resolution, which was adopted unanimously :

Resolved, by the North American Bee-Keepers' Society, in Convention assembled, That the thanks of this Association are due, and are hereby tendered Thomas G. Newman, Esq., our retiring President, for the zealous, untiring and successful manner in which he has conducted the affairs of this Association; and we further thank him for his great liberality in traveling through Europe in the past two years at his own expense, thus being the means of opening up avenues of trade for American honey, and advancing the interests of American apiculturists in a manner that could not be reached by any other method.

The following was then read by the Secretary on

The Coming Frame.

This may seem a strange subject for an essay, and yet it admits of much study and I expect will receive sharp and severe criticism. I sometimes think that some of our bee masters fail to get at the real meaning and value of our conventions. As our National Congress and Senate meet for the purpose of ascertaining the means of benefitting our country. So our conventions should be the storehouses of knowledge; and as the educators of the fraternity at large, should decide all questions of debate justly and candidly, laying to one side all personal prejudices and personal interests, conceding to the welfare of the whole. Should we do this I think that it would lead us to adopt a standard frame and box. I would not for one moment advise even (as some do) the throwing away our frames and hives now in use, as no one who has fitted up his apiary wishes or needs to change his frame, but might change the honey box. Every intelligent bee master can succeed with almost any of the frames in use. I would suggest and urge the necessity of a standard frame in view of the following facts :

1. That apiculture is growing so rapidly in importance that it has taken its place as one of our national industries and beginners are being added to our ranks every day.

2. Because the many-shaped packages in which our honey is put on the market injure its sale, and the frame used to a great extent governs the above.

3. Because in the sale and interchanging of colonies, nuclei, &c., odd shaped frames cause much vexation and trouble.

4. Because I believe that if we choose the proper frame as a standard, we shall do away with this vexation, aid to systematize apiculture and benefit the fraternity.

This brings me to the question of what frame shall we choose as a standard? and why?

Bees when left to follow their natural instincts store the honey above the brood, building and adding comb below and retreating (so to speak) as they store above, until (as records show) they sometimes build comb 7 feet in length. From this standpoint some have originated the deep frame. This would do well enough if we did not wish our honey stored in boxes, but we do; and in view of this fact, that well-known and justly-honored pioneer of apiculture in America, the Rev. L. L. Langstroth, originated the shallow frame. While many frames have been originated to suit different tastes, both deep, square and shallow, Mr. Langstroth has lived to see his frame promise well to be the coming frame; and if you ask why, let me answer :

1. Because being shallow, it admits of successful top boxing; thus following the natural instincts of the bee.

2. Because it admits of easy and rapid manipulation.

3. Because being shallow it brings the heat down close to the cluster which is very essential in spring breeding.

4. Because it is the best summer frame in use.



5. Because there is a greater demand for this than for any other frame, and demand regulates supply.

6. Because it can and will allow of successful wintering on summer stands.

7. Because its use encourages the use of the regular $4\frac{1}{4} \times 4\frac{1}{4}$, and prize boxes; and because this will help regulate our honey market.

One word as regards wintering; it is becoming a fact that out-door wintering will be the popular method; in this I am supported not only by my first teacher in apiculture that veteran queen raiser H. Alley, but by many of our best bee masters, all of whom are capable of sound judgment and whose testimony is solid. I am prepared to state and can demonstrate that we can winter successfully on the summer stands with the Langstroth frame. As knowledge on the subject of apiculture advance, we find men like J. H. Neillis, H. Alley and many others, whose testimony cannot be impeached, adopting the Langstroth as the standard frame. These are men who have held in favor the deeper frames, but are now of the same opinion as myself. I began with the American frame, and have used besides the Bay State about $8\frac{1}{2}$ wide by $16\frac{1}{2}$ deep, the standard Quinby, and one $10\frac{1}{2} \times 15$, and after studying them all have become thoroughly convinced that the Langstroth is the best frame for general use and should be adopted as the standard and is the coming frame.

I would again urge the National Convention to take notice of these remarks and render a just and impartial decision, keeping in view the fact that it should work for the interest of the whole mass of bee-keepers.

I am sorry that I could not be with you and debate upon and help to decide these questions of interest. Our conventions are the educators of the thousands of bee-keepers who await eagerly the report of our deliberations.

After showing some persons who were just embarking in bee-keeping, who had only a few colonies in box-hives, how often they are bewildered by the large array of hives, frames and boxes, and would say "I am puzzled; what would you suggest?" This shows again the importance of a standard frame, and of system.

The time is coming when, even though we may not now adopt a standard frame which governs the honey box, &c., the demands of the people will force the fraternity to do so. Let us then take the laurels and honors as a Convention, of recommending a standard frame. But lest I exhaust your patience, I will close, wishing you all a pleasant and a profitable meeting. Thanking you for your patience and also taking this means of shaking hands (so to speak) with many of your number whom I met at the National Convention, at New York and at the Syracuse Convention. SILAS M. LOCKE.

Canajoharie, N. Y.

Adjourned till 1:30 p.m.

AFTERNOON SESSION.

Time and place of next meeting being in order, Rev. L. Johnson nominated

Lexington, Ky., as the next place of meeting, supporting his nomination by an eloquent and forcible appeal to the North American bee-keepers.

Several other places were nominated, but all were successively withdrawn, and Lexington was unanimously selected, amidst much enthusiasm, as the place for the next annual meeting.

The Secretary then read the following paper:

HONEY—Past, Present and Future.

The subject we have chosen for a few thoughts is a vast one and one that cannot be dealt with justly, in the few moments that this Convention can spare for the reading of it. However, we will endeavor to condense it to suit the time allowed and patience of our hearers.

First we look at the word honey; it is derived from the Hebrew word "Ghoneg" and means delight. We find it in Webster or Worcester meaning "a sweet, viscid substance, collected and elaborated by bees from flowers and stored in waxen cells."

We have divided our subject into three parts, our first is, "Honey in the past." As we look back to find a starting point, we are led step by step through a lapse of more than 3,000 years, to the mention in the Bible of the land of Canaan which was said to be a land "flowing with milk and honey," and the first mention of it is where Jacob instructs his sons to carry down a little honey to the man in Egypt, for a present.—Gen. 43: 11. We read, also, of sucking honey out of the rock, and honey from the ears of a lion, honey upon the ground, brooks of honey, etc., and, in fact, honey is among the first things we read of in God's Word, and must have been one of the common products of the land occupied by God's favored people. We cannot say anything as to the method of securing it. We know that John the Baptist lived upon locusts and wild honey, and we gather from that and other facts connected with Bible history, they understood how to secure the honey, if not to manipulate and domesticate the bees. From these ancient times we leap forward to the present century, and our own day and generation. It is not many years since we were using liquid honey strained from a mass of dead bees, comb and bee-bread, secured by a wholesale massacre of the colony. It is only a few years since we were able to place our comb honey in the market in a commercial form, it bringing prices, which, if obtained now, would make us all rich in a short time. It is only a little while since we have been able to know just the kind of flower our honey was gathered from, and to secure it before it became mixed with other kinds.

The rapid advance of genius, coupled with our American in-born propensity for improvement and money-making, has brought us to our present improved and beautiful style of marketable honey. This brings us to our second division of our subject: "Honey at present."

Honey at present is considered among the luxuries, having drifted into that position from the neglect of those who made a busi-

ness of producing it, and from the fact that cane sugar being produced in such quantities that made it cheaper, and of course supplied the demand for sweets among those whose tastes were only too easily satisfied by something, no matter what, as long as it was sweet and cheap. Among the ancients cane sugar was unknown, and no doubt honey was the common and only known sweet used by all. We presume the secret of our people neglecting to produce honey is, that the majority of them are afraid of the "business-end" of the bee, or sting; another fact is that too many have made the producing of honey merely a side-issue, and have not used the modern appliances and improvements which would enable them to produce it in much larger quantities and in a very much more convenient and handsome shape, for we presume there has been no time in the history of the world when honey was stored in such a convenient and handsome style as at present. We have not only the small convenient box of comb honey finished and complete, a thing of beauty in itself, but we have the pure honey in a liquid form, extracted from the combs by the modern machine known as the mel-extractor or honey-slinger, giving us the pure virgin honey free from all the impurities of wax, bee-bread and dead bees. Honey in this form is certainly one of the healthiest and purest syrups we can place upon our table, enjoyed by our children who naturally love it, and ourselves, because we know it is free from the adulterations which form a very prominent ingredient of the many forms of syrups of the present day.

Our modern improvements and appliances have brought honey into this desirable position, and also to the great reduction in the price of it now, compared to the past. We now come to consider our third division of our subject: "Honey in the future."

As we remarked in the outset, our subject is a vast one, and our paper does but touch upon the outskirts of its vastness; we would weary our hearers should we attempt to dig into the cells or go even beyond the cappings of this subject. What we can say about our third division of the subject is only of course conjecture on our part, although judging from the rapid strides of the past few years, and from the fact that apiculture is growing in interest, and the production of honey becoming one of the great industries of this country (mostly brought about by the dissemination of knowledge and experience through the bee papers), we predict for honey a place second to none among the products of the land.

We have about reached the acme of success, as far as the package of comb honey is concerned, although we may make an improvement if we can reach a uniformity of the package. To do this would in a large measure necessitate a uniformity of hive or brood-frame, which would be a grand thing if it could be brought about; but we can hardly hope to do this as long as the old adage holds good: "Many men of many minds." But to come back to our subject, honey in the future is destined to take its appropriate place. This will be brought about through an increase of production and a corresponding decrease in price; also,

through the villainous adulterations of cane sugar and syrups, and the honesty of bee-keepers in producing a pure article of honey. There will be temptations to resist. In fact, they are being resisted now (and we hope successfully) by every bee-keeper in this country, in refusing to countenance the use of grape sugar and glucose as an adulteration of honey. We are to take pride in the fact that our honey is a pure article; we are to endorse it by placing our name and address upon each package, thus showing that we are willing to vouch for its purity. If we do this, we need not fear to keep step with advanced apiculture. We need not fear to run our bees for extracted honey, if by so doing we can secure double the quantity, and then *feed it back* when the flowers fail, and have it stored into beautiful comb honey.

Should we restrain from using our ingenuity and brains because some unprincipled fellow may learn a way to cheat? Should we not teach our children to write, because some fellow may learn to write and commit a forgery? Out upon such a principle! What are our bee papers for, but to disseminate knowledge and exchange thought and experience, and thereby advance our industry to where it belongs among the industries of the world? It has been said "he is a public benefactor who has been the means of causing two spears of grass to grow where one grew before," does not this hold good in our business? Certainly it does, and we mean to continue, God helping us, to be an *expert* and to teach others so to be.

But are we not digressing? The last division of our subject is one that we all are intensely interested in, and to sum it up in a few words, for I fear I have already wearied you, let us do our best to get all the honey we can; use all the means that are legitimate and best in doing so; have it in the most approved and salable shape, and sell it to responsible dealers who will pay us the best price for it. Let us not be satisfied with the *past*, nor content with the *present*, but reach forward to a glorious *future*.

Canajoharie, N. Y. J. H. NELLIS.

Dr. J. P. H. Brown, Georgia, chairman of committee to draft resolutions condemnatory of adulterations, reported the following resolutions, which were unanimously adopted:

Resolved, by the North American Bee-Keepers' Society, in Convention, That we most sincerely deplore the almost universal system of adulterations in articles of food, and particularly all attempts at adulterating honey, or the use of glucose in any manner whereby it may by any possibility become incorporated with honey.

2. That the practice of adulterating honey heretofore placed upon the market as "strained" honey, has worked to the detriment of all honest honey producers, and thrown great discredit upon our product.

3. That we demand a stringent law be passed by the general Congress of



the United States, imposing heavy penalties, or making it a criminal offense to so adulterate, or vend adulterated honey.

The following paper was then read by the Secretary :

How to make Honey a Staple Product.

Some arrangement to bring our honey market on some reliable foundation, as other products are sold, is very desirable. As matters now are, we have nothing to guide us ; there are so many bee-keepers who take no bee paper and do not keep posted in any way respecting the crop of honey or its value, who will rush into the market with honey out of season, and take any price "sharers" feel disposed to pay them, and thereby establish a market price at about one-half its value. This has much to do with the interests of the honey raiser ; it is so often done that many honey buyers know that the old maxim is just as true as ever : "Fools are not all dead"—and many of them watch for such honey men and will not talk with those who they know are well posted in the value of honey.

Last week I was in the city of Utica and called on a honey dealer, I offered to show him the report in the *BEE JOURNAL* and other papers, but he would not look at it. He replied he did not care anything about the report—he could get all the honey he wanted. He said a man was there on the previous day with one pound boxes and offered them at 14c. per lb. You see his offer was little over one-half of what honey is worth. His actions spoke louder than words that "fools were not all dead," and it was for that class of men that he was watching to obtain his honey.

Can there not be something done to keep such inexperienced men out of the market and prevent the honey sharers from getting our honey at half its value ? I hope this question will be fully investigated by the National Convention. R. BACON.

Verona, N. Y.

C. F. Muth, Ohio, gave the following review of honey-production : It is now only 12 or 15 years since our honey yield averaged about 10 to 15 lbs. per colony. I remember well that I managed to sell from season to season all I had produced. To my sales were added occasionally a few boxes of comb honey purchased from neighboring farmers. My ambition was modest like my production. When I obtained the first 500 lbs. in a season, its production was an event as unexpected as the sale of it. Comb honey came to our market in almost every shape. Combs built in large boxes were offered for sale, as well as promiscuous-looking combs, cut out and placed in barrels, stone jars and wooden buckets. People desiring to buy honey had to take it in such shape as it was offered.

Mr. Muth said times had changed. Since the honey extractor has come into

use, we have not only increased our production manifold, but we are also producing the finest honey we ever dreamed of. We produce the choicest comb honey in any desirable shape, and our extracted honey cannot be excelled. As honey-yielding flowers bloom at different times, we can keep separate almost all the different kinds, such as fruit-blossom, locust, clover, linden, buckwheat, etc. These are about all the principal honey plants in our neighborhood, not mentioning a large number of fall flowers, such as goldenrods, hearts-ease, etc. By means of the honey extractor we have produced a large quantity of honey all over the country during the last 10 or 12 years. Our markets were over-stocked and prices went down until they became unsatisfactory to the producer and dealer. Low prices, however, brought on a demand. Manufacturers using sweets found honey to be a finer and purer sweet than molasses or syrup, and as cheap as any, and when we had no idea of selling a barrel of dark honey to anyone a few years ago, we sell now a few hundred barrels of it in a comparatively short time. Extracted honey has become a staple article, and is getting in better demand with every year.

The price of an article is a matter of consideration with every business man, and the price of honey is no exception to this rule. I find, for instance, that dark honey will sell to manufacturers at about 7@10c. per lb., according to quality and quantity purchased, when they would not buy any at a higher price. Our best comb honey will retail sowly at 25c. per lb.; it sells well at 20c.; but everybody buys it at 15c. Comb honey will remain a fancy article ; only when choice white, and in neat shape, will it bring a good price.

The last 3 years have been discouraging, as our product hardly paid for our labor ; but, if times gone by are a criterion, this has been an exceptional period. A poor honey season was an exception, and not the rule, and it is my conviction that bee-keeping is a paying business if we can realize 10c. per lb. for extracted, and 12@16c. per lb. for comb honey, for the reason above given, that the demand is more than proportionably greater.

This was followed by a paper on the

Best Methods for Marketing Honey.

It has been estimated that there are some 300,000 persons who keep bees in North America ; an average of 10 colonies each, will place the number of colonies at three millions ; and if these produce 25 lbs. each, the honey product amounts to 75,000,000 of pounds, valued at \$10,000,000.

The wax product, if each colony give but one pound, worth 20 cents, amounts to \$600,000.

If these figures are substantially correct, then the "best methods" for placing this enormous product upon the market, is a subject of vast importance to honey producers. Any method that will add one cent per pound to the marketable value is worth to them three-quarters of a million of dollars; and any error of management, causing a reduction of one cent per pound if to them a corresponding loss! We should ascertain what the market demands and then diligently apply ourselves to the work, in order to reap the reward of "well doing," and rejoice in the labor of our hands.

Honey in the comb is a luxury—a fancy article—and our first care should be to produce it in such a manner as to command a fancy price. It must captivate the eye of the consumer, and tempt him to purchase. To this end does the confectioner assort and classify his product; for this object, bolts of muslin and rolls of dry goods are adorned with lithographs of luscious fruit; for this cause fancy boxes and toilet articles are embellished with fancy labels, exhibiting enchanting faces with bewitching smiles; and to tempt the gentlemen, cigar boxes and tobacco wrappers are gaily decorated with beauty's charm.

Honey should also be placed upon the market so as to attract and tempt the consumer to purchase it. To this end comb-honey should be put up in single-comb sections, all combs being straight and evenly built (which can only be done by the use of separators) and labeled with the kind of bloom which produced it, giving the producer's name and address. It should be put up in uniform crates, and not veneered, i.e. the combs inside should be just as good as those on the exterior of the crate. Small packages sell the most readily, 12 in a crate is usually sufficient, and always the most desirable for the jobbing trade.

The apiarist should give his personal attention to its crating, grading and shipping, so that he may be positive as to the details, should any question, involving these, be raised by the consignee. The inexperienced and careless ones are always a detriment and sometimes ruin the market, for their more careful and experienced neighbors. They take an inferior grade of honey, put up in irregular and soiled packages to market early, just to get a little money, and sell for any price offered; and this often settles the price for that locality and season, and the attractive honey is either sacrificed to their carelessness, or shipped to another market.

If shipped away to market it must not be packed in straw or chaff; but put in small crates containing a single tier and placed with the top bar downwards, which is the strongest way, and will prevent much breaking down. Ship by freight for the expressage will be so high that it will take off all the profits, and is, in nearly all cases, liable to as much damage as when sent by freight. See to its packing in the car, wagon or vehicle, and place the combs lengthwise to the engine but crosswise to the horses, and give direction not to have it unloaded on trucks, but invariably to be unloaded by hand.

Extracted honey should be capped before extracted so as to be sure that it is ripened, and then put into small kegs made of sugar pine or spruce, and to hold from 100 to 200 lbs. to be of ready sale and more easily handled. Keep the honey from the different blossoms separate, it will enhance the price.

The demand for honey is increasing fully as much as its production. There need be no fear now of overstocking the market. It is being regularly used in various manufactorys in the liquid form, and its demand is steadily increasing the world over. In the comb it is finding its way to the festive boards of thousands of families where it was in former years, scarcely ever seen. The markets of the world are not only open to it, but the demand is far greater than the present supply.

This is exceedingly encouraging to the apiarists. We have never doubted the final success of exertions put forth to develop the honey markets in the Eastern Hemisphere, but some have done so; the burden of their cry has long been that "honey is not a staple, and never can be"—"the markets are overstocked"—and "we have too many honey producers." But at last, one of the "chiefs" of these "children of fear," has heard "a still small voice," whispering in his ear, that electrifying and consoling word "*Success!*" Now all the stars of lesser magnitude, that revolve around that luminary, will soon hear the same "whispering angel," and rejoice in the abundant success in store for all honey producers.

THOMAS G. NEWMAN.

Chicago, Ill.

S. T. Pettit, Ontario.—What is meant by sugar pine?

Mr. Newman.—A species analogous to Norway pine; however, the latter will do, or almost any pine, being careful to scald thoroughly before putting in honey, that it may not be tainted by a turpentine taste.

The following essay, bearing upon a similar topic, was then read by the Secretary:

Extracted vs. Comb Honey.

"Which is the most profitable, extracted or comb honey?" is the question to be discussed. According to our experience, extracted honey is the most profitable; for it is beyond the smallest doubt, that bees can give at least twice as much of extracted as of comb honey. Yet, some bee-keepers find extracted honey difficult to sell, and it will be the same as long as their customers will doubt the purity of extracted honey, and as long as they will refuse to admit that extracted honey is more healthy than comb honey, since the last contains beeswax, which is indigestible.

Since I became a bee-keeper I have been struck with the inconvenience of comb honey; for besides giving less pounds, we have to take into account the amount of work to prepare the sections, the number of sections which are unsalable from being sealed only in part, or soiled by a few cells containing pollen, or by the depositing of eggs by the queen; if we add the care of



packing these sections, the risk of breakage and loss by leakage during the transportation; the risk of moths on the combs; the soiling of the sections and of the floor by a few broken cells, etc., we are compelled to admit that these drawbacks are far from being compensated by the price, which is about half as much more than extracted, and consequently quite inadequate to counterbalance the loss, the work, and the difficulties.

One of the main objections which prevents many bee-keepers from working their bees for extracted honey, is the difficulty of getting the people accustomed to buy their article. This objection is serious.

About 12 years ago we had 300 lbs. of extracted honey to sell. I sent my son to town with a sample of clover honey. It was in July. The honey was clear as crystal, and as light in color as the finest amber. Well, my son entered a drug store. The man took the vial in his hand, raised it between his eye and the window—"Is that honey?" said he, with an inquiring eye; "I don't buy such stuff!" Of course, our honey was too pure for a man accustomed to buy strained honey, always mixed with pollen and crushed larvae.

To get rid of our honey we had then to put it in the hands of a grocer, to be sold on commission, and more than one time our honey was in part returned in April. But, by our persistency, our article has become known around us, and we can sell 15,000 lbs. or it more easily than 1,500 lbs. 12 years ago.

The next difficulty to overcome was the granulating of honey. The adulterators, unable to make candied honey, took great care to accuse our honey of being adulterated, because it was candied. By our labels we have overcome this difficulty, and now we can readily dispose of our entire crop at paying figures.

Perhaps our means of procuring this honey will not be out of place here. For years we have been accustomed to take out of our hives, in the spring, all the drone combs. These combs are not melted, but are fixed in frames, and put in the upper half-story. As some of our customers want comb honey, we replace about $\frac{1}{4}$ the frames with sections filled with light comb foundation, made expressly for that purpose, from the finest and lightest beeswax, to avoid "fish-bones." The bees use, in the lengthening of the cells, the wax produced by the young bees when they are too well fed, and the cost of our combs is thus greatly reduced.

As soon as our first story is about half full, we put a second story, similarly prepared, under it, and sometimes a third story on our best colonies. We have on hand several thousands of drone combs, thus preserved for years; in fact, we have enough of them to give room to our bees till the honey crop is at an end, and do not extract before. By this means our honey is thoroughly ripened, and hardens completely in winter.

Remember that ripe honey can be kept for year without fermenting to a damaging extent. Our customers are now so much accustomed to candied honey, that the sale of liquid honey would be to us as difficult now as the sale of granulated was in by-gone years.

Of course we consider as bad the advice given some time ago, by the editor of *Gleanings*, to bee-keepers, to boil their honey to prevent granulation, before putting it on the market. Besides being difficult and expensive, this boiling process changes the true characteristic of pure honey, and lowers it to the level of the adulterated article.

Let us be honest in our dealings, offer to the people a good, ripe and well-presented article, and we will soon and forever overcome all the difficulties. CHAS. DADANT.

Hamilton, Ill.

D. A. Jones, Ontario, has always sold his crop in neatly labeled tin cans, holding $2\frac{1}{2}$, 5 and 10 lbs. each.

C. F. Muth, Ohio, knows from long experience, it is not necessary to wait for bees to cap their honey before extracting it. As soon as the cells are all filled, it is ripe enough to extract. When there is a doubt, let the honey stand in any open vessel, exposed to the air, and it will soon ripen.

Mr. Newman said they use a sun evaporator in California. I do not care how it is ripened, but must insist upon it being done.

Foul Brood.

C. F. Muth, Cincinnati, gave the following elaborate method of eradicating foul brood: It is gratifying to observe the growing attention paid by bee-keepers in this country to the dangers of the spread of foul brood. Utah has a bee inspector in every county, a State officer, drawing pay from the State. It would be a move in the right direction if other States would imitate our Mormon brethren in this especial particular, since bee-keeping has become so important a factor in the common wealth of the country.

It is very essential for every bee-keeper to know his position in regard to foul brood, should it make its appearance in his apiary, as the pleasures and profits would be destroyed if this pest is permitted to become predominant in his neighborhood. A country like ours, where an abundance of forest trees afford homes for absconding swarms, is very favorable for the spreading of the disease. There would be no end to foul brood in a neighborhood after a number of bee-trees become infested, as every bee running over those devastated combs for years afterward, is liable to take home to its own hive the germs of the disease. Let us, therefore, be on our guard.

Foul brood is a disease, imported, and spreads by contagious spores. It is of vegetable growth—a fungus. Little specks of it, hardly discernible with the naked eye, are carried along on the legs of the bees running over infected combs. Wherever one of these spores drops into

a cell containing larva, the larva dies, changing soon into a brownish, putrid mass, settling into the lower corner of the cell, and foul brood begins its growth. It happens that larvæ are affected and die just before the cells are capped, or while the bees are performing their usual labor, capping, unconscious of the trouble below. We find these cells, a few weeks afterwards, perforated at or near the centre, and easily recognize them as diseased. Larvæ in uncapped cells, killed by this disease, settle into the lower corner as a rottish substance, and dry up in a hard, coffee-colored mass. They are easily recognized.

Bees continually running over these cells will soon carry the micrococcus to a large number of others containing larvæ, until every comb is affected. The putrid stench becomes so strong in the hive that often the bees swarm out in despair, unable, however, to rid themselves of the curse of foul brood adhering to their bodies. The disease does not affect old bees, but, killing off the young, soon decimates a colony.

Micrococcus dropped into empty cells, or cells containing honey or pollen, may remain dormant for years. As soon, however, as the queen deposits eggs in such cells, and they develop into larvæ, the trouble commences. I have had a case where the spores from an infected hive were hidden among the fissures of a plank exposed to the weather for more than 12 months, and were ready to do the mischief the following season when I put a hive on that plank. The bees ran over it, and dragged in with them the germ of foul brood.

Dr. Schönfeld has taught us the true nature of foul brood, and that its growth is destroyed by salicylic acid, while Mr. Emil Hilbert found the proper proportion and application whereby foul brood is destroyed without injury to animal life. Mr. Hilbert applied his medicine by means of an atomizer, subjecting every comb, cell and bee to a spray of the same. Every infected cell had to be disinfected, as also every comb and frame, and the inside of the hive and adjoining surroundings. Several thorough treatments of this kind will cure a colony of foul brood. I have cured quite a number of them in this manner, and speak from experience. My *modus operandi* has been given in an essay to the meeting of our Association in Chicago, which makes a repetition here unnecessary. See page 502 November No. of AMERICAN BEE JOURNAL, 1879.

The only objection I have to the above method, is that bees from other hives visit the combs under treatment in your

hands, or the open hive before you, and take the spores home with them, and by the time that one colony is cured we may find a number of others affected. So it was with me in spite of the greatest care. Mr. Hilbert treats his diseased colonies in a closed room, so that no bees from other hives have access during the time of treatment.

I had come to the conclusion that it was the cheapest and safest remedy to destroy an infected colony, with all the brood, combs, and every bee belonging to it. However, I learned a better method this summer. A neighbor offered me, in March, two empty hives and combs, the bees from which had died during winter and were robbed by other bees, as he stated. I was convinced at first sight that those bees had died of foul brood, and sent a warning, to look out, to my neighboring bee-keepers, one of whom discovered one of his hives affected afterwards and burned it up. In April I discovered two colonies in my apiary affected with the disease; I brimstoned the bees the same evening, burned up the combs and frames, and disinfected the hives. Another colony showed it in May. Feeling sorry to kill a beautiful queen, besides a very strong colony of pure Italians, I brushed them on 10 frames of comb foundation, into a clean hive, and placed over them a jar with food, as I shall describe hereafter. The old combs and frames were burned up, and the hive disinfected. This feeding was kept up until all the sheets of comb foundation were built out nicely and filled with brood and honey. It was a beautiful colony of bees about 4 weeks afterwards, full of healthy brood, and with combs as regular as can only be made by the aid of comb foundation. Four more colonies were discovered infected, one after another. All went through the same process, and every one is a healthy colony at present. I was so convinced of the completeness of this cure, that I introduced into one of these colonies my first Cyprian queen sent me by friend Dadant.

All are doing finely now, and no more foul brood. Should, however, another one of my colonies show signs of the disease, it would not be because it had caught it from its neighbor which I attempted to cure, but because the germ of foul brood was hidden somewhere in the hive, and of late had come in contact with a larva.

The formula of the mixture is as follows:

16 gr. salicylic acid,
16 gr. soda borax,
1 oz. water.

I keep on hand a bottle of this mixture,



so as to be always ready for an emergency; also a druggist's ounce glass, so that I may know what I am doing. My food was honey, with about $\frac{1}{4}$ weight of water added. But we may feed honey or sugar syrup, adding to every quart of feed an ounce of the above mixture. Bees being without comb and brood, partake of it readily, and by the time their comb foundation is built out, you will find your colony in a healthy and prosperous condition.

Thus you see foul brood can be rooted out completely, and without an extra amount of trouble, provided you are sufficiently impressed with its dangerous, insidious character, and are prepared to meet it promptly on its first appearance.

When an atomizer is used on combs and larvae, the medicine should be only half as strong as given in the formula.

In answer to a question, Mr. Muth gave it as his opinion that foul brood is imported into this country, and not of American origin.

Mr. Boardman differed with Mr. Muth; he is satisfied he contracted one case of it, which he cured by destroying the combs and putting the bees in a new hive, after which he sprinkled them thoroughly with carbolic acid.

In answer to the question, whether foul brood existed in this country prior to the importation of foreign bees, Mr. Muth said he did not know.

T. F. Bingham, Michigan, said foul brood existed in this country previous to the importation of Italian bees.

Dr. Brown, Georgia, said the late Mr. Quinby mentioned foul brood before importations had been made from Italy.

After some further discussion on the subject, Mr. Bingham stated that foul brood emitted a very strong and disagreeable smell. After the death of the young bee, the mass becomes very putrid and ropy in attempting to remove it from the cell, thereby making it impossible for the bees to clean out the combs. Mr. Bingham then moved a vote of thanks to Mr. Muth for his valuable discovery, which was carried.

The following paper was then read by the Secretary:

Agricultural Failures.

I recognize such a factor as "luck" in every branch of business. By "luck," we mean, circumstances and conditions materially affecting our successes, and over which we have no control. Outside of this class of conditions, there are a vast number over which we can exert more or less influence. What we know about these conditions is called science. As we are learning more and more day by day, science is expanding and the domain of luck contracting, each

day. Still I may say that there will always be enough of the uncontrollable, called "luck," to make or break the wisest of business men. Every bee-keeper no doubt, has had taste of both good and bad "luck."

The judicious business man of any calling makes the very best of it in either case. When "luck" favors with good weather and a consequent large yield of honey, then is the time to exert ourselves and see how large we can make it. "When you have help is the time to pitch in," is the old adage.

When you get a good crop, do not come to the conclusion that "bees work for nothing and board themselves," and rush it into the market early and all at once, thus bearing the price down to a much less figure than you can produce it, in an average season. Do not do this, for we do not want to lose your company so soon. Remember such seasons as 1869 and 1880, when thousands of colonies come home to board.

Last October and November white comb honey in sections, sold in Chicago at 12 $\frac{1}{2}$ c.; four months later it sold at 18 to 20c. for the same. By that time the glut in the market was over. Indiscretion on the part of producers brought about that condition of things. Honey is not a perishable commodity but on the contrary can be kept from year to year. When it is below the cost of production there will surely come a corresponding reaction in prices. Hold for that time, in which case you will help to hasten it.

To succeed in any pursuit it is of vast importance to have a mind clear of superstition, to the end that we may "see things as they are," as Billings puts it. Our writers of "gush," looking at one side of the picture, tell us that all that is needed is a little capital, a few new ideas, and then fix up the hives (chaff hives) and put on the boxes (prize boxes) and go about your business (not bee business) and in the fall take off a few tons of honey and its all (most all) clear gain. Just so.

But that does not equal agriculture. All one has to do, to raise corn, is to buy some cheap land, just skip over it with a plow, then drop in the seed, and may be tickle it once or twice with a hoe, and it grows itself (nights, Sundays and all, rain or shine) and all you have to do is to step out in the beautiful autumn, and glean the golden ears, which always bring cash. Like the hod-carrier, who said, all he had to do was to carry a little mud up a ladder; "the men up there did all the work."

When we compare the price of honey with the price of bees, we come to the conclusion that something besides bees is requisite in the accumulation of a honey crop. Yes sir, a clear head, lots of nerve, close attention to details, and a disposition and ability to do hard work, are all required to succeed in this business. May I not add, to succeed in making merely a living at it?

A large majority fail, who attempt bee-keeping, and many more would, were it not for the fact of some profits gained by helping others on to the royal goal. Who ever heard of anyone buying out an apiary complete. Could I have made such a purchase twelve years ago (I mean have bought out an apiary complete, one up to the highest standard of that day) I need not to-day care

for my own sake, whether honey was worth 1 c. or 20c. per pound.

No, we prefer to "kinder" grow into the business, and it costs us two or three times as much money and time as it would to purchase and commence where some one leaves off.

It will not do to depend upon directions found in bee papers and books. Many of the writers of books are *practical* failures and have strength only in the literary part of the pursuit. The contributors of our bee papers are "many men of many minds." Many of them unsuccessful as honey producers. Some dishonest, and writing as experiments what are only theories; others governed by personal spleen, or mercenary motives; and all this in spite of the best editors and publishers that we can have. Bee papers and books are of most value to him who has the ability to cull the chaff from the kernel.

A successful method of getting apicultural lore, is by visiting such apiarists as you would guess might be as well fixed for the accomplishment of the end in view, as any. Sometimes it is quite difficult to explain some points, in the apiary, that can be brushed away with a breath on the floors of conventions, or from the pages of papers.

In my limited travels, I have been many times surprised and heartily disappointed, at finding scarcely a spark, behind a great volume of smoke. Again have I been happily disappointed at finding a "mute inglorious Milton," truly on the royal road to success. I call to mind my last journey of a few days ago; I found that on the road I should "pass Mr. B's skeps." I thought I should like to see how many "skeps" Mr. B had. I did so, and what did I find? A young man with a lady-like wife, and two sweet children; little house and honey room; large apiary and last but not least, a head full of thoughts, of a clear solid and practical nature and entirely free from superstition, and besides the best income of colonies and honey I have yet heard of in Michigan.

"Here we are" said he, "trying to make a business of honey producing as a specialty. What do you think?"

"That you will succeed," said I, without hesitation.

He will succeed because he is up with and a little ahead of the times. Because he has the judgment to keep within his means, and keep perfect system and order all about him. Because he had the keen insight to see where and how others had failed; I tell you it made me feel happy to see such progress. No supplies to sell. A sign on the honey house said "honey for sale." I never was more pleased to find one of my supers overflowing with basswood honey, than to see his neat shipping cases well filled, during this poorest of all seasons.

I like to see coats, hats, dresses and bonnets, large and small, together with all necessities and luxuries common with the family, all bought with the products of the apiary. If I have a weakness for honey-producing as a specialty, please excuse it.

This friend is in the country and do you not think it would be a splendid achievement for our pursuit, if some non-producing

enthusiast, could only persuade Mr. B's farmer neighbors to cut into his splendid field?

I left this friend not only a happier but wiser visitor. Many such there are in this broad land, who have more apicultural knowledge, than disposition to write on the subject. We get their experience only by visiting them.

I am much pleased to admit, that the outlook for the apiarist is more encouraging today than for years past. The export trade proposes to hold us at, or above 15c. per lb. for our sections crated and laid down in the city. This is certainly good to fall back on when our home market is too full to bid higher. This season we shall get 20 to 25c.

Now bee-keepers who would succeed, it rests with you to know that a divided field will not pay anyone, and act accordingly. If you expect to avoid an "apicultural failure," choose an unoccupied field (for many such there are, and good ones too) and then if you are possessed of integrity, mental and physical tact, with an ability and disposition to work, success is surely yours,

JAMES HEDDON.

Dowagiac, Mich., Sept. 13, 1880.

D. A. Jones, Ontario, explained an important discovery made by him for obtaining surplus honey in the brood-chamber, whereby he thinks as much comb honey can be obtained as extracted. It consists of a division sheet of perforated zinc going across the hive and removable at will. The perforations are of such a size that the worker bees can pass through but the queen cannot. This sheet of zinc is placed behind the first three or four frames in the hive. The queen has access to the frames in front of the zinc, but not to those behind it. The worker bees will always deposit their honey in the middle of the hive if possible, and with the zinc sheet in, the queen cannot get at the middle frames to deposit eggs. Consequently the frames in front of the zinc get filled entirely with brood and the frames behind the zinc entirely with honey. If a little is deposited in the brood frames it is of no consequence the object being to get the honey frames free from brood. As soon as a brood frame has been laid full of eggs it is lifted out and put at the back of the hive for the eggs to hatch out, and another frame is given to the queen. The gain by this method is immense. Not only can box and extracted honey be obtained from the same hive, but the quantity deposited is increased greatly from the absence of brood and pollen in the honey frames. The zinc sheet can also be used to prevent swarming, if there should be any such signs at an inconvenient time; by placing it at the entrance of the hive the queen is shut in, and of course the swarming does not take place while the work goes on as usual.



T. F. Bingham, Michigan, gave the following address:

Wintering Bees North and South.

Is the subject which has been assigned to me; not because I am master of the subject, but because I am not. The fact that I shall not exhaust the subject, but shall say just enough to provoke a hearty discussion and call everybody out, is the reason I have been selected—probably.

Every bee-keeper, and many other intelligent people, are aware that bees have periods of activity and periods of repose, and that while bees are presumably as busy as a bee, they are just the most lazy, idle and vindictive insect known, when out of employment. When there is nothing to do they do nothing but speculate. They are on the lookout for a nice job. They are very tractable and have a keen eye to business. But while they have this practical turn, and are often pugnacious about it, they never smoke smokers, or house apiaries, or complicated chaff hives, for their own use.

In no country or section of the world is the flow of nectar continuous through all periods of the year; hence even in the tropics, periods substantially corresponding to winter exist; though in such a limited degree as to require practically no attention. It is in the northern belt lying between 37° and 47° north latitude, that we find winter in its nobler sense—winter worth consideration as a leading factor in apiculture and sherry cobblers.

In New England, New York, Minnesota, Wisconsin and Iowa, cellars entirely under ground have given the most uniform and satisfactory results; while in Michigan, Ohio, Indiana, Illinois, etc., surface protectors, such as house apiaries and chaff packing have given good results. The latter plan under the stimulus of complicated and expensive hives, has received much attention, and while the results have not been uniform, they have been generally satisfactory. In that part of the winter belt of which Kentucky and Tennessee afford fair illustration, a straw, cotton or wool mat, 2 or 3 inches thick, placed upon the frames of shallow hives, renders the wintering of bees a matter of certainty; while in Alabama, Mississippi, etc., no special winter protection is required.

Though I believe a cotton seed mat or mat of unginned cotton would be of great value on the frames of shallow hives. By shallow hives I mean all the popular frame hives in use. Much more has been said, perhaps, than has been specially interesting, on the subject of protection of bees in winter, yet the matter of external protection does not wholly cover the ground of wintering bees in any section. Bees wintered in deep, dark cellars, consume less honey than by any other method. Bees, properly protected and allowed to fly when they are so disposed, consume more honey but require little or no spring care, except in removing the combs from those that have lost a queen or failed in the race of accidents to demonstrate their right to survival, when only the fittest survive.

First. To winter safely there should be a large average colony of bees.

Second. If to be wintered in the open air, properly protected. An average hive should contain 25 lbs. net of honey in November. If to this be added an extra set of combs, or the hive to be wintered is the equivalent of 2 cubic feet, it should contain from 10 lbs. to 15 lbs. more honey, exclusive of combs, pollen, bees and frames.

Bees in Kentucky, Tennessee, &c., require fully as much honey for winter and spring as in Ohio or Michigan, and, except in epidemic seasons, suffer about the same ratio or loss from death and other casualties. The entire loss of an apiary of any considerable size by winter epidemic in any of the Southern States, I believe, has never been reported.

Winter losses in any section of our country from November until the swarming season, will average 15 per cent., and in large apiaries the summer losses will average about the same, except in poor seasons. In poor seasons the average accidents are greatly diminished and the summer losses much less.

T. F. BINGHAM.

Otsego, Mich.

M. Hayes, Ohio, offered the following resolutions, which were adopted unanimously:

Resolved, by the North American Bee-Keepers' Society, in Convention assembled. That the importation of pure Italian, Cyprian and Holy Land bees into North America, ought to be encouraged for the sole purpose of adding new and different strains of blood to that we already have.

2. That the strain of Italian blood we now have has reached a higher standard of excellence than is to be found in the native home of the Italian.

3. That queens reared from pure selected home-bred Italian mothers, should command at least as high a market value as those bred from imported mothers, where pure Italian stock is the sole object desired.

C. F. Muth, Ohio, addressed the Convention upon the subject of

A Rational Increase of the Apiary.

When in early spring the days begin to lengthen, the queen of every hive in normal condition begins to deposit her first eggs, if not induced to commence sooner by warm weather. At first she lays a small circle of eggs on each side of and in one or two combs, according to the strength of the colony. About twenty-one days after the first eggs are laid, the first young bee make their appearance. The circles of brood become larger and more combs are made use of.

Bees older than 10 or 12 days are poor nurses, and do all housework reluctantly. They are foragers. Young bees, however, are nurses and comb-builders and do all housework pertaining to the welfare of a colony, such as cleaning hives and combs, preparing cells for the re-

ception of eggs, honey or pollen, supplying the larvae with food, etc. The brooding is carried on with more energy after the first lot of young bees are hatched. No colony is in a prosperous condition without the necessary quantity of young bees. Here many beginners miss it when making artificial swarms.

In this part of the country, where white clover is almost our only resource for honey, it is of the greatest importance that our colonies should be strong early. Bees require heat for brood-rearing and comb-building, and we can promote breeding very much by contracting the space in their hives according to the size of each colony, by means of division boards. Give them just as many combs as the bees can well cover, and the result will be sheets full of brood from top to bottom and from end to end. Without this precaution, we have about half as much brood or less, in as manner combs. Division boards should not touch the bottom by from $\frac{1}{4}$ to $\frac{1}{2}$ inch so as to give the bees access to combs of honey placed on the other side. An empty comb is to be added from time to time as the growth of the colony requires. The proper use of division boards in early spring is such a stimulus to breeding up, that perhaps none of us would do without them who give it once a fair trial.

When we have a number of colonies which are all treated alike, we find, in spring, always some much stronger than the balance, while other colonies are rather slow in increasing their population. If their queen is too old, or unprolific for some reason, she should be replaced by a better one. But it happens, sometimes, that no good reason can be assigned for the slow progress of such colonies and we are often surprised at their energy and rapid growth as soon as a few combs with hatching brood and adhering bees from a strong hive are added to them.

The proverb of old, "Make your swarms early," is, therefore, not my motto. But I strengthen up my weak colonies with combs of hatching brood and adhering bees from strong colonies in order to be ready for the honey harvest. As old bees only are foragers, it requires a large number of them at the time when flowers are yielding the nectar, to insure a full crop of honey; consequently, we should secure our honey-harvest first, and then make our swarms.

As a rule, bees will not swarm when the queen has plenty of room to deposit eggs, nor the bees to deposit honey. Without one or both of these requirements, a swarm may issue on any fine

day. A queen, however, may be crowded in the course of a day, and we must prepare for an occasional exception to the above rule.

I use the Langstroth hive with 10 frames in the brood chamber, giving a capacity of about 1,320 square inches of comb. My greatest care in spring is to have these 10 frames filled with brood by the time that white clover commences to bloom, and I do not put on the second story or honey chamber until that object is accomplished. A comb filled with too much honey in proportion to the brood is exchanged for an empty one, and placed in the upper story of some hive, or used to build up a weak colony or a nucleus. The empty comb is placed next to the one on which I find the queen, who will not be long in finding it. When 10 Langstroth frames are filled with brood and the honey-chamber is put on the hive, at least partly filled with empty combs, bees will follow at once their natural inclination of storing above their brood, providing the flowers are secreting honey and weather permit. We should always make it a point of having at least one full comb in the honey-chamber reaching down to the brood, serving the bees as a ladder to run up on. This is an inducement for them to enter more readily.

There are now so many young bees hatching every day that the queen is kept busy refilling with eggs those vacated cells. Under these circumstances she will hardly ever enter the honey-chamber. If honey combs are emptied promptly with the extractor, or the necessary room is given them to build comb honey we shall have but few natural swarms. I am producing principally extracted honey, but it is due to the above management that I have had but one natural swarm during the last 15 years or more.

While our colonies are all very strong and bees busily engaged collecting honey, we may quietly prepare for the increase of our apiary.

Worker-bees are females imperfectly developed, and a perfect female or queen can be developed from a worker-egg. Accordingly, the bees select their cells, make them larger and longer, and supply them with the necessary food, so-called royal-jelly—a mixture of pollen and honey. In due time the cells are capped over.

The hive containing our choicest queen may be deprived of the same. The restless motion of the bees about their hive soon afterwards tell an experienced eye that they are missing their queen. In less than 24 hours,



however, their loss has been realized and the bees proceed quietly to repair it by commencing to build a number of queen-cells, each one of which occupies about as much room as 4 or 5 worker cells, having a downward tendency and shaped much like a peanut.

About 16 days after the eggs are laid, young queens emerge, but as bees will often form queen-cells over larvae 5 or 6 days old, we may expect the first queens to issue on the 10th day after the colony was deprived of its queen. We should, therefore, form nucleus colonies the preceding day. We take from every strong colony (according to its strength) 1 or 2 frames with hatching brood and adhering bees, and replace them with empty combs or comb foundation. Two combs being sufficient for a nucleus colony, we place these in a hive between 2 division boards. All old bees having gone back to their old hives, we proceed to cut out queen cells, using a sharp, thin-bladed pen-knife, leaving $\frac{1}{8}$ to $\frac{1}{4}$ of an inch of comb all around them so as not to injure the young queens inside. A queen cell is placed between the top-bars of the frames of each nucleus, in such a position that one may see on raising the cover whether the cell has hatched. The bees lose no time in fastening and taking care of it. In due time the young queen emerges, is fertilized, and begins her avocation as mother of the colony. She lays her first eggs generally 8 to 12 days after she is hatched.

We can now let her fill a few combs with eggs, or give some useful work to the colony, according to their strength and the season, such as the building of worker combs or the building out of comb foundation, etc.

When our honey season is over, we have kept our bees from swarming by the above method and by adding occasionally to our nucleus a frame of brood from our strongest colonies, without, however, depriving them of their force of honey-gatherers. If we have manipulated properly, a full crop of honey (according to the season) has been secured, and we have not been troubled with natural swarms. We may now strengthen up our nuclei with sheets of hatching brood and adhering bees from our old colonies which have an abundance of brood and stores.

As every swarm made is more or less at the expense of the honey harvest, we are satisfied with about 1 swarm from every 2 colonies. We make less if we can; but if swarms are the object, the most ambitious can satisfy themselves by the above method and the aid of comb foundation.

Another good method of starting

queen cells is as follows: Divide the colony from which you desire to breed by means of a division board; lay the entrance blocks in the middle, letting the bees enter on each side of the portico, and leaving most of the capped cells on the same side with the queen. All communication between the two sides must be prevented. The queenless part will proceed to build queen cells at once, which will be ready to cut out on the 10th day and be placed in the nuclei as described above. At least on the 10th day we should begin, as the young queen hatching first will unceremoniously dispatch every rival queen in the hive, by biting open the cells and introducing her sting, thereby killing the young queen inside. We may continue rearing queens in the same hive all the season if we choose, and from the same queen, by changing her from one side to the other.

The Langstroth hive is well calculated for rearing in it 3 queens at a time, by means of 2 division boards, letting the side swarms fly out from side ventilators, and the middle swarm in front—3 nuclei in one hive. The advantage of this method is, that any of our combs answer for the nucleus, and after our 3 queens are laying eggs, we may make use of 2 of them, take out the division boards, and let the remaining queen take charge of the hive. This queen will be safe among the bees, which will all be of the same scent, and in the same condition.

C. H. Deane, Kentucky, offered the following resolution, which was adopted unanimously:

Resolved, That all bee-keepers in this Convention, who feel competent, are hereby requested to write for their local papers on the subject of bee-keeping.

Mr. Kramer, Ohio, with a hive illustrated a method by which he had succeeded during the past season in having two queens mated in confinement. It was done by carrying the queen above, into the second story, and placing a wire screen below; then the drones are imprisoned with the virgin queen in the second story, and a cloth covered over. Each day the cap of the hive is removed to allow the sun to shine on the cloth, and entice the queen and drones to fight in the hive. The thanks of the Convention were voted Mr. Kramer, and he was requested to write an explanation of his method for publication.

Mr. Jones presented the North American Bee-Keepers' Society with a Cyprian queen, the same to be placed with Mr. C. F. Muth, the bees to be tested for superiority by him, and a report to be made.



Rising votes of thanks were tendered Mr. Polster, proprietor of the Bellevue House, for courtesies extended the Convention; also to

Mr. C. F. Muth, for perfecting arrangements for the very successful meeting of the Convention; also to

Messrs. D. A. Jones, of Canada, and Frank Benton, of Michigan, for their explorations in the Island of Cyprus and the Holy Land, in search of better races of bees; also to

Those who have sent various articles for exhibition at this session of the Convention, and which have lent so much interest to this meeting; also to

The Cincinnati papers for their notices and excellent reports.

The following were most noticeable among the exhibits, and attracted considerable attention:

Royal bee hive, Riegel & Dunn, Adelphi, O.
Bee hive from Dierenreiter, Cincinnati, O.; also, honey in jars.

Bee hive from Truax, O.
Triumph bee hive, W. E. & I. E. Smith, Kenton, O.
Langstroth bee hive, honey extractors and queen cases, from C. F. Muth, Cincinnati, O.

Comb foundation machine, from Mrs. Frances Dunham, DePere, Wis.

Comb foundation machine, from John Bourgier, Fond du Lac, Wis.

Comb honey, 8 cases, from Dr. Drane & Son, Eminence, Ky.

Paper-bdy comb foundation, paper separators and glassed section of honey, J. E. Moore, Byron, N.Y.
Box with honey sections, S. H. Smith, Delta, O.
Bee smokers and uncapping knife, T. F. Bingham, Otsego, Mich.

Honey in jars, A. C. Cunningham, Salvisa, Ky.
Honey in jars, G. W. Egbert, Salvisa, Ky.

Bees from the Isle of Cyprus and the Holy Land, D. A. Jones, Beeton, Ontario.

Queen Cakes, J. O. Peet, Canajoharie, N. Y.

Comb foundation, for box honey, J. Van Deusen & Sons, Sprout Brook, N. Y.

Comb foundation, for brood chamber, with and without wires, also thin for surplus boxes, D. S. Givens, Hoopston, Ill.

Wheelbarrow on springs for moving hives and honey; also containing tool-chest, etc., J. M. Davis, Spring Hill, Tenn.

On motion, the Convention adjourned until the next annual meeting, at Lexington, Ky., the time to be fixed by the Executive Committee.

N. P. ALLEN, M. D., Pres.
EHRICK PARMLY, M. D., Sec.

[On the third day, those who could make it convenient to remain, went in a body to the residence of Mr. J. S. Hill, at Mount Healthy, O., about 10 miles from Cincinnati, and spent the day with that veteran apiarist, examining his apiary and implements, and hearing him describe his management. They were provided with an excellent dinner, and several indulged in speeches. All had a good time generally. The essay of Rev. O. Clute was not received till after the meeting was over. It will be published in the BEE JOURNAL when we can find room.—ED.]

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Local Convention Directory.

1880. Time and Place of Meeting.

Nov. 9—Lancaster Co., Pa., at Lancaster, Pa.

Dec. 3—Michigan State, at Lansing, Mich.

1881.

Jan. 11—N. W. Ill. and S. W. Wis., at Freeport, Ill.

18—Northeastern Wisconsin, at Oshkosh, Wis.

Feb. 2—Northeastern, at Rome, N. Y.

5—Ashtabula Co., O., at Andover O.

April 5—Central Kentucky, at Winchester, Ky.

Wm. Williamson, Sec., Lexington, Ky.

Sept. 2—National, at Lexington, Ky.

—Kentucky State, at Louisville, Ky.

In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.



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1865.— —1880.

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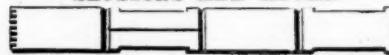
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DISSOLUTION NOTICE.

Notice is hereby given, that the co-partnership heretofore existing under the name of THOMAS G. NEWMAN & SON, is this day dissolved by mutual consent. All accounts due to the said firm must be paid to Thomas G. Newman, who will also pay all claims against the late firm, and continue the publication of the AMERICAN BEE JOURNAL and Bee Books and Pamphlets. The business of dealing in Bee-Keepers' Supplies will be continued by Alfred H. Newman. Dated at Chicago, Ill., July 1, 1880.

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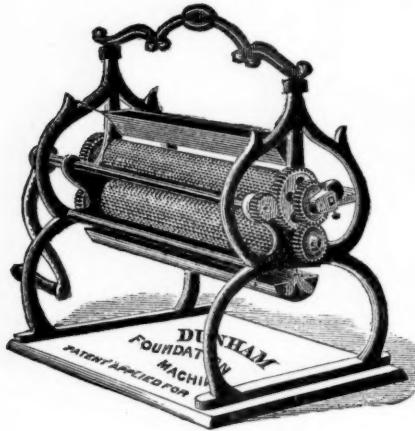
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